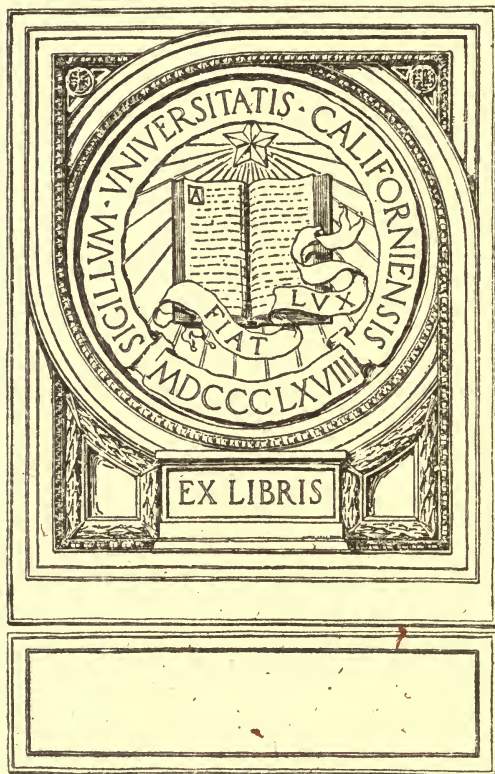


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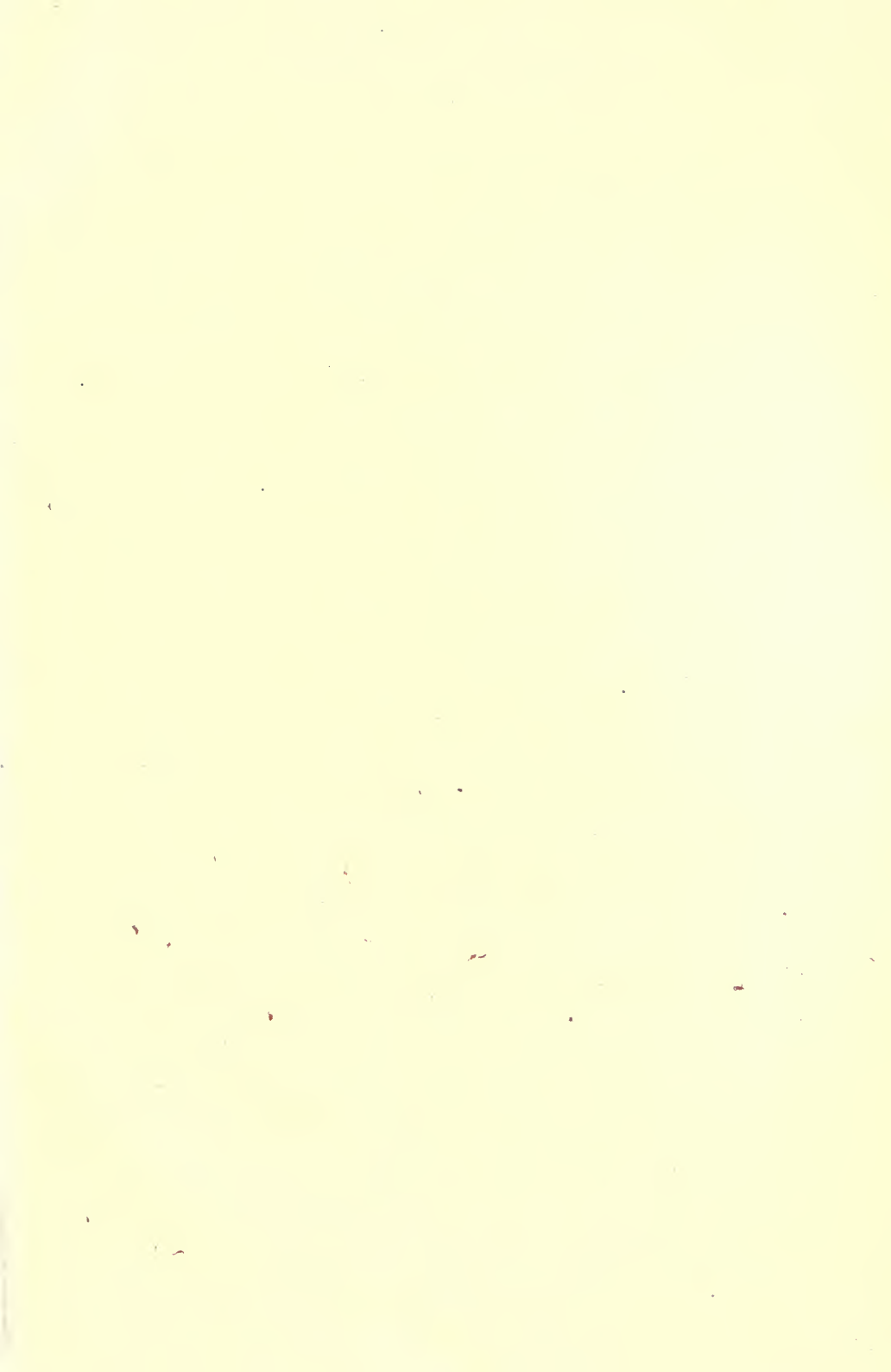


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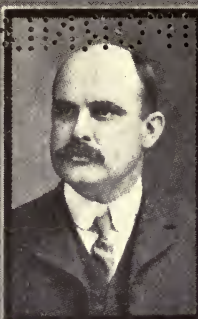
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of the
**American
Mining
Congress**

Seventeenth Annual Session

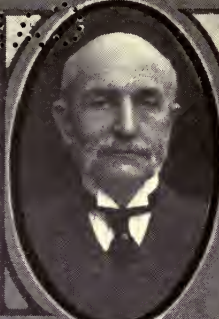
**PHOENIX, ARIZONA
December 7-11, 1914**

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Denver, Colorado
1915





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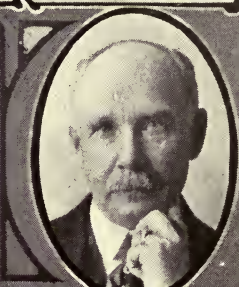
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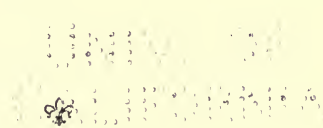
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Report of Proceedings

OF THE

American Mining Congress

Seventeenth Annual Session
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PREVIOUS SESSIONS OF CONGRESS

DATE.	CITY.	PRESIDENT.	ADDRESS.
1st July, 1897*	Denver, Colo.	Hon. Alva Adams,	Pueblo, Colo.
1st July, 1897	Denver, Colo.	Hon. L. Bradford Prince,	Santa Fe, N. M.
2d July, 1898	Salt Lake City, Utah.	Hon. L. Bradford Prince,	Santa Fe, N. M.
3d July, 1899†	Milwaukee, Wis.	Col. B. F. Montgomery,	Cripple Creek, Colo.
3d June, 1900	Milwaukee, Wis.	Col. B. F. Montgomery,	Cripple Creek, Colo.
4th July, 1901	Boise, Idaho.	Hon. L. Bradford Prince,	Santa Fe, N. M.
5th Sept., 1902	Butte, Mont.	E. L. Shafner,	Cleveland, Ohio.
6th Sept., 1903	Deadwood and Lead, S. D.	Hon. J. H. Richards,	Boise, Idaho.
7th Aug., 1904	Portland, Ore.	Hon. J. H. Richards,	Boise, Idaho.
8th Nov., 1905	El Paso, Texas.	Hon. J. H. Richards,	Boise, Idaho.
9th Oct., 1906	Denver, Colo.	Hon. J. H. Richards,	Boise, Idaho.
10th Nov., 1907	Joplin, Mo.	Hon. J. H. Richards,	Boise, Idaho.
11th Dec., 1908	Pittsburgh, Pa.	Hon. J. H. Richards,	Boise, Idaho.
12th Oct., 1909	Goldfield, Nev.	Hon. J. H. Richards,	Boise, Idaho.
13th Oct., 1910	Los Angeles, Cal.	Dr. E. R. Buckley,	Rolla, Mo.
14th Oct., 1911	Chicago, Ill.	John Dern,	Salt Lake City, Utah
15th Nov., 1912	Spokane, Wash.	Samuel A. Taylor,	Pittsburgh, Pa.
16th Oct., 1913	Philadelphia, Pa.	David W. Brunton,	Denver, Colo.
17th Dec., 1914	Phoenix, Ariz.	Carl Scholz,	Chicago, Ill.

*Temporary.

†Passed to June, 1900.

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REPORT OF THE PROCEEDINGS

OF THE

Seventeenth Annual Session of the American Mining Congress

Elks' Theatre, Phoenix, Arizona
December 7-11, 1914

MONDAY, DECEMBER 7, 1914.

Opening Session
2 O'clock P. M.

The Congress was called to order by Hon. Joseph H. Kibbey, chairman Local Reception Committee.

CHAIRMAN KIBBEY: Gentlemen, the honor of calling this Congress to order has devolved upon me, and the first thing in order will be an invocation by the Rt. Rev. William J. Scarlett of our Trinity Church pro-Cathedral.

(Invocation.)

CHAIRMAN KIBBEY: On behalf of our local committee, Ex-Governor Sloan will now give some expressions of appreciation of the honor we feel for the meeting of this Congress here in our state. I have the pleasure of presenting Ex-Governor Sloan. (Applause.)

HON. R. E. SLOAN: Mr. Chairman and Gentlemen of the American Mining Congress: I have been, as the Chairman has said, delegated in behalf of the local committee to say a word—and it is a very pleasant duty—of welcome to the visiting members of the Congress and to express our appreciation of the honor conferred upon our town and our state in the selection of Phoenix as the place for the holding of your seventeenth annual session. I am also commissioned to say that by the expressed wish—I may, indeed, say command—of your executive officers, we are limited in what we may do for you in the way of entertainment of a social character. It was suggested to us that the American Mining Congress is composed of business men who meet for business purposes only, and that social engagements therefore tend to interfere with the very serious and important work of the convention. We appreciate this and we acquiesce in it. We do appreciate the fact that the American Mining Congress is a working body; it was organized for that purpose; it was organized upon large plans. It was its design as I understand, that by this means there should be brought together representatives of the various branches of the great basic industry of mining so that these representatives might confer together upon matters of vital concern to the business of mining, to consider in a concrete way the matter that immediately relate to mining. Not only so, but to consider the more general questions, such as that of conservation of our natural resources, upon lines, however, that

will admit of their broad development and utilization. Not only so, but you meet to consider and it is your purpose that you meet and consider what is perhaps still more important—the conservation of human life made dangerous by the hazards of the occupation of mining. Not only so, but incidentally, perhaps, it is your purpose to recommend from time to time needed legislation upon the subject of mining. Permit me to say that there is one thing about the American Mining Congress that should commend it, in my judgment, and that is that it has not been organized for the purpose of reforming, nor has it ever undertaken to reform anybody or to uplift anybody by means of ill-considered or “freak” legislation. In my judgment laws are needed, but too much law is as bad and possibly worse than too little law, and there is danger in the tendency toward over-legislation that our government shall become top-heavy in this direction. You have been active, however, in a sensible, business-like way in effecting legislation. I recall that this Congress has been instrumental in securing the Bureau of Mines. I believe that you are in a fair way also to bring about a much-needed revision of the mineral laws of the United States. There is certainly room for such an organization as this, for no other organization can so well present the views, the wishes and the requirements of the mining business to Congress and to the state legislatures and to the country. There are many functions that this Congress has to perform and will perform. Just now, when half the world is at war, business and industries of every kind, including mining, have been feeling the effects of that war. Perhaps due to this cause the field of activity of this Congress has been widened. Let me suggest another thing: America, as well as all the world, has been at school these last four months, and we have been learning a valuable lesson. Whether Germany shall succeed or fail in her gigantic effort to defeat her enemies, she certainly has been giving the world a valuable object-lesson in efficiency. She has taught us that exact scientific knowledge, thoroughness in method and the application of sound business principles are essential to industrial supremacy as they are to modern warfare. She has also taught us that no people without these can hope to compete in the future with a nation that possesses them. Now, this may be a needed object lesson for America, and I think it is, and that we are beginning to realize more and more that the future industrial supremacy of our country rests not upon the richness and plentitude of our natural resources but upon the efficiency of the men and methods employed in their development and utilization. (Applause.) Now, I do not know that this lesson is particularly needed in the mining industry. To some extent I presume it is; but to the extent that this Congress is directed—and it seems to me that its work is primarily so directed—to the securing of greater efficiency, it deserves the support and encouragement of us all whether we are engaged in mining or not. Business, Gentlemen, is a unit: whatever affects one industry or one enterprise or one business affects other industries and other enterprises and other businesses to the same extent. We realize that in our own state, Arizona, in common with other copper-producing states, has been feeling acutely the decline in copper. We have come to realize from this that we are dependent in a large measure upon that industry for our prosperity. Let me suggest another thing in this connection—that we should all look with interest to the course of events in so far as our government is concerned in dealing with this industry. We should all hope, at any rate, that our government will be able to maintain, and will adhere to, the policy that copper in neutral vessels consigned to neutrals at neutral ports may not be seized as contraband of war by British and French ships without clear proof that Germany or Austria is to be its ultimate destination. (Applause.) I see from this applause that if any prop or props in the way of public sentiment are needed to sustain our government in that position this Congress is ready to supply them.

Now, gentlemen, it is not my purpose to make a speech; it is not my

business to make a speech to you. You have a very interesting and comprehensive program for this session of your Congress. Permit me, in closing, to express the hope that it may be carried out without a break and that you may all extract from it and from your visit to Phoenix not only pleasure but profit to yourselves and to the interests you represent. The Committee, I wish to say, is whole-heartedly at your service to achieve that end. (Applause.)

CHAIRMAN KIBBEY: On behalf of the state of Arizona, and speaking for the state at large as well as for the city of Phoenix, Hon. George P. Hunt, Governor of Arizona, will now extend to you some remarks of welcome. (Applause.)

GOVERNOR HUNT: Mr. President, Gentlemen of the Mining Congress: It is with a keen realization of the great importance of this occasion that I come before you this morning to address, in behalf of Arizona's mining men, the City of Phoenix, and the State of Arizona, a cordial welcome to the many distinguished visitors from other states who have come together to participate in one of the most notable gatherings that annually marks America's industrial life. I speak with the utmost certainty when I give assurance that the mining men of Arizona, and the representatives of the city and state governments as well, feel highly honored by the holding of this Congress in the Capital of the State, and regard this occasion as an exceptional opportunity to demonstrate the whole-hearted nature of Arizona's hospitality. We, who for several months past, have had a part in preparing the scene of this convention, have freely given our most earnest efforts toward insuring our visitors of sessions both pleasureable and profitable, and even though it should prove that some things have been left undone for the attainment of such a purpose, you who have come from afar, may at least be assured of the sincerity of our good will, of our unqualified desire to please and of our deep personal satisfaction in being allowed to entertain a body of men whose names, collectively, stand for all modern advancement in the development of the mining industry throughout the United States. As Governor of Arizona, a state comprising many colossal mining projects, whose reputation has gone abroad throughout the land, I warmly welcome all of you, and express the earnest desire that many of you as individuals may have frequent opportunity to revisit Arizona and share in her business development.

For many years past, with the exception of two or three, it has been my fortune to live in one of the most promising mining centers of this state, and to observe, in that connection, the vitally important part which the mining men of this country have taken in the development of Arizona's mineral resources and the consequent upbuilding of our business structure as a whole. In the life of the city, to which I refer, and which is characteristic of numerous centers of population in Arizona, the arrival of each train, with the possibility that some great captain of industry might be incoming, constituted a very important event of daily recurrence. This constant and consuming interest in all newcomers was perfectly natural in the light of the fact that the arrival and departure of many a noted engineer or far-famed capitalist marked a new contribution to the industry of the entire mining district within which my home city was situated. My chief purpose in dwelling on this particular phase of Arizona's industrial life is to emphasize the intimate and all-important connection of the mining industry to Arizona's present and future welfare. My further object is to illustrate the vast responsibility resting upon each captain of industry, who directs the different mining enterprises of the state, and who is frequently instrumental in opening up new avenues of commerce tending to enrich this young but vigorous commonwealth in which most of us, who are acting in the role of host today, have made our homes for many years. The picture, which I have drawn, may, furthermore, assist in enabling you, who are Arizona's guests, to

realize, in some degree, how remarkably Arizona's people are impressed by the vast significance of this gathering in the Capital City of the State.

With a consciousness, therefore, of the important and far-reaching relation of this Congress to the mining industry of Arizona, and of the entire United States as well, we may reasonably anticipate that the sessions to be held during the next few days will lead to the solution of many serious problems confronting the management of mining companies at this particular period, and may result in an even greater measure of harmonious co-operation than has prevailed heretofore. It is no exaggeration to assert that the true source of progress and human well-being is harmony, and that the "work-together" spirit bears a direct relation to civilization's advancement.

Although there is a certain ineptitude in citing the German nation of today as an illustration of the possibilities to be realized through co-ordination of efforts, all of us, who have followed her career since the European war began, must necessarily have been dumbfounded by the remarkable spectacle of a great commercial empire being suddenly transformed into an enormous fighting machine, the maintenance and movement of which have proceeded with the regularity of clockwork. Lacking a stupendous endeavor toward co-ordination, such monumental efficiency could never have been realized, and therein we find, unfortunately, a contrast between the German nation, where all men work together in the common interest, and the United States where competition between countrymen and between industries as well has been carried to the Nth power.

Without decrying American individualism, is it not possible for the leaders of American industry to immeasurably accelerate business and social advancement by instituting a new era of co-operation that will extend not only to commercial enterprises, but which may also eventually be made to characterize the conduct of our State and National governments in the furtherance of the general welfare? To eliminate needless friction between individual industrial leaders, between corporations and proletariat, and between the employer and employed, is as commendable and beneficial a purpose as could possibly animate our public men of today to whom the guidance of mammoth industries and of governmental organizations are entrusted. I firmly believe that no man can promote the welfare and happiness of others without, at the same time, reaping the greatest reward of all—the fullest measure of success in his chosen line of work.

Should it be possible, in the sessions of the American Mining Congress, to crystallize such a spirit of mutual helpfulness and universal co-operation as has been merely suggested by the words which I have spoken, a vastly significant movement will have been inaugurated and this new direction given to the energy and thought of those who are members of this gathering would surely and inevitably give the American Mining Congress an enviable and unprecedented place in the commercial history of this country.

With all the warmth of feeling which I possess, and with reassurance of Arizona's hope that every member may leave this scene, at the conclusion of the meetings of the next few days, carrying with him constructive ideas for future application, and pleasant memories of good-fellowship, I conclude my words of welcome to you whose presence confers a new and signal honor upon our state.

CHAIRMAN KIBBEY: Speaking for the people of Phoenix, its mayor, Hon. George U. Young, will address a word of welcome to you. I have the honor of presenting the mayor, Hon. George U. Young. (Applause.)

MR. YOUNG: Mr. Chairman and Delegates to the Seventeenth Annual Session of the American Mining Congress: Phoenix, the Queen City of

the Southwest, appreciates the honor conferred upon her in this gathering of men, attempting things of such mighty import, and from this appreciation there comes a welcome now found only in a partially free and untrammelled West.

It is not only paradoxical, but wonderful, that a gathering of this kind and intent should exchange mutual honors with this wonderful little city, not yet fully alive to its great mining possibilities, and there are several of us who will rejoice if this fact be revealed by this particular session of the American Mining Congress.

Phoenix, lithe, tawny and beautiful, in her young strength, reclines transcendent and radiant as an iridescent dream, on her throne of silver, copper and gold, filamented, decorated and adorned with the trailing arbutus, orange blossoms and the velvety purple of alfalfa bloom. The air, laden with the perfume of orange, hyacinth and columbine, has lulled many to sleep in the dangerous realm of egotism, comfort, peace and prosperity, and at the worn out sentinel's "All's well," turn over for another season of rest and sleep, but there are others of less selfishness, greater experience and more extended vision, who have known, and do know, that in union there is strength, and the greatest strength is found when the holy face of motherhood and angelic face of childhood, supported by the brawn and strength of the miner, look forth in happiness through the wreath of smilax and rose produced and nurtured by the patience and intelligence of the farmer.

This is a wonderful gathering of men, upon which mighty responsibilities rest, and a meeting held in the most portentous time in human history. This statement is made without fear of contradiction by the student and thinker.

Mining is the one peculiar industry known to man. It is a developer of man as no other vocation, because the weak, timid and cowardly can have no place in it and righteously do their work, for the best versed man in mining is but a pioneer in an unknown realm.

The greater the proficiency of one in mining, the more that one feels his inefficiency and lack of knowledge. There are no permanent guide posts in this vast region, and but few proven truths, therefore, the mining industry stands first in all the world. Not in money, income or other material things, but in that power to develop in the faithful and courageous man those latent but basic truths, which, if righteously followed, make better men and women, a higher citizenship and a greater national permanency.

Mining is also the one industry which has been brought into the worst repute by writers of national fame, but colossal ignorance. The "crook" and the "get-rich-quick artist" have also utilized its possibilities in preying upon the duplicity of the equally as crooked or ignorant investor, who dreams his dream of avarice, and thinks he can get valuable mining stock on the basis of a two to five One Dollar certificate for twenty-five cents.

It has stood all these buffets, and again has had to stand the awful burden of theoretical mining engineers, through whom has come that vast amount of wrong information now most tenaciously followed by the great majority of legitimate investors. Through this class of mining engineers—who know nothing of the difference between a money-spending ability and a money-creating ability—investors have been taught to believe millions are required when thousands would suffice, and in many instances, hundreds would do where thousands are demanded. In other words, the lack of practical experience and the application of good, common sense should inform the wise investor that it's a pretty safe buy if he can find a mining prospect that has been turned down by from ten to twenty of this class of mining engineers.

The application of this theoretical mining knowledge the past few years, has practically driven the prospector from the field and has placed

the average mining prospect in the same category with the human patient and his physician. Most any ordinary patient may be able to stand the experiments of one physician, but when that physician calls a consultation, and the unfortunate patient has to withstand the onslaught of all of them, it is a wise precaution for him to make his will. The same with a mining prospect, struggling along under fifteen different opinions, made up by fifteen different engineers.

Will this congress of men realize its great responsibilities at this session, and especially its greatest responsibility, which is the life and permanency of this great nation? Will you delegates keep in mind you are representing the one industry now left which develops individuality, as individuality is being destroyed in all other lines, and when individuality is destroyed that nation sooner or later must fall and perish from the face of the earth

Will you realize the pendulum of human progress is now swinging backward in the life of man, and no man in this great audience will live to see that time again, when the awful material fight for animal existence can be laid aside, or secondly carried, while methods for mental culture and human advancement are being studied and experimentally applied?

Our brothers in Europe, in less than three months time, have destroyed the constructive efforts of centuries in human uplift. Be our sympathy where it may, the ghastly truth stands revealed, that should the aggressive nation perish, the nation first in practically all the sciences, and especially in the science of Government, the most divine science of them all, when that nation is lost in the vortex of memory, it drags with it the work of a world. May it not be so,—but our brothers of nearer kin and blood are having to tent with the disciples of superstition and ignorance, because of their own past inertia and destruction of individuality in national make up.

Many will say: "The United States is left to light the way." Possibly—What will be the result of this, the Seventeenth Session of the American Mining Congress? We are all familiar with the corruption of corporate methods in the near past. It made a people mad, with the result that today this nation groans under the weight of grievous legislation, and an expense account under which no nation can exist and prosper.

One's misfortune is another's fortune, whether applied individually or in the aggregate, and today we stand in the dawn of an era of national prosperity. It cannot last, because of the impulse contained therein, and in less than fifteen years, those of us then living, will see this great government tottering to its very foundation, unless meetings of this character perceive the weakness of the foundation, and have the patience, intelligence, unselfishness and patriotism to cease building at the top and commence lasting repairs on the foundation, which is,—the expansion and uplift of the individual man.

What are the truths gleaned? First:—Most people know of government, but few people know what it is. Second:—Until unselfish and intelligent instruction is taught of what a sacred responsibility the ballot is, the preservation of this government depends upon the limitation, not an expansion of the franchise. Who will first start the movement requiring a voter to pass an examination on the subject of democratic government before being allowed to vote? Which will be the first mining company to start and support a school where its employees may be instructed in government taught by a teacher not teaching government for the benefit of that company or the mining industry, but for the general uplift of democratic government?

Few laws, plain ones and in simple terms, may the delegates to this Congress record themselves in favor of, and thus there will come forth from this beautiful little city, in the land the fool said "God forgot," the first faint cry of a new wisdom in Israel.

As one of the few individual mining men of the city of Phoenix, proving his faith by his works, it is more than a pleasure to welcome you as men engaged in a mighty work.

As the Mayor of Phoenix, it is not only my great pleasure, but great honor, to tell you Phoenix welcomes you—once, twice, thrice—and emphasizes this welcome with three cheers and a tiger.

The City Manager has been asked to remove the lid for you as far as within his power. We want you to go to your homes with your hearts filled with love for Phoenix, and as time grows older, when you have handed your lance and armor to the younger man, and you sit by the quiet of your fireside, may memories come to you of this occasion as sweet as the odor of lavender and old rose, and may you think of Phoenix as a precious old cameo, circled by bands of gold, set in pictures of copper and silver, which will be at that time the truth, for some of the biggest mines any country now contains will be proven to exist on the fringes of these watchful waiting mountains surrounding Phoenix.

Again—Members of this Convention—as the Mayor of Phoenix, permit me, in behalf of the people, Commission, City Manager and myself, to bid you a glad welcome, tell you the latch string hangs on the outside, bidding you enter, take what you desire, and if there is anything you do desire and cannot find, kindly request it of us and we will be glad to find it for you.

CHAIRMAN KIBBEY: The Secretary of the Congress has a letter from the President of the United States which he will read.

The White House, Washington, October 2, 1914.

Mr. J. F. Callbreath, Secretary,
American Mining Congress, Washington, D. C.

My dear Mr. Callbreath:

To the Members of the American Mining Congress: I regret exceedingly that owing to the press of circumstances it will be impossible for me to greet you in person at the Seventeenth Annual Session of the American Mining Congress, at Phoenix, Arizona, in December.

I am well aware of the important part played by your great organization in the creation of our Bureau of Mines and am sure that the good work of that bureau in attempting better to safeguard the lives of the two million men employed in the hazardous mining and metallurgical industries will continue to redound to your credit, as well as to the credit of the bureau itself. It will always be a tribute to your foresight and energy that this new federal organization, in the short period of its existence, with the kindly co-operation of state and other agencies, has been able, by persistent and intelligent effort, to turn an isolated, local movement for greater safety into a great national movement for "Safety First" that has already gone beyond the mining industry into every industry of the country. I venture to say that thousands of lives have been saved by that movement and that many thousands more will be saved in the future.

Gratifying as the results of this life-saving campaign may have been, however, there is still vigorous work for your Congress to do. I am informed that during the last year more than three thousand men were killed and one hundred thousand injured in the mining and metallurgical industries of the country. At the same time, those in authority tell me that from their observation and experience one-half of such deaths and three-fourths of such injuries may be regarded as easily preventable.

I suggest this situation as an opportunity for further endeavor on your part to cut down this excessive toll of death and injury. I can assure you of the fullest co-operation of all the proper governmental agen-

cies; and also of my earnest desire for your active and continued assistance.

There is one other problem connected with the mining industry in which the Federal Government is vitally interested, and that is proper conservation and proper use of the mineral resources of the nation. I realize that you, too, are interested in this problem and wish merely to call it to your attention because of its fundamental importance to the present and future prosperity of the nation. I am happy to say that the profligacy of the past in the use of these resources is not being continued, at least not on so large a scale. There is, however, great opportunity for further reform along these lines and in this your organization can be of invaluable service.

Sincerely yours,

WOODROW WILSON.

CHAIRMAN KIBBEY: The President of the Congress will respond to the address of welcome, and upon my presentation of him to you my functions will have ceased and he will from thenceforth preside over your deliberations and direct your further proceedings. I have the pleasure of presenting to you Mr. Carl Scholz, President of the American Mining Congress. (Applause.)

PRESIDENT SCHOLZ: Ladies and Gentlemen and fellow members of the American Mining Congress: In behalf of our organization I want to accept the very cordial and hospitable invitation and reception given us by the city of Phoenix. It is indeed a rare pleasure to receive such a warm welcome as has been accorded to us here today by your former Governor, your present Governor, the Mayor of the City and the very able Reception Committee.

Phoenix is, indeed, a fitting place for a meeting of this kind, being the center of a very wealthy mining district, one to which this state owes a great deal. I am sorry that I, myself, know so little about the state, but from what little I have seen it has indeed been a surprise to me. I expected to find Phoenix a wild western place, instead of which I have been pleasantly disappointed. These flowers do not look like evidence of a wild western desert; they speak with a warmth of Southern hospitality which we so greatly appreciate. Living, as many of us do, in the northern and eastern cities, where ice and snow are now so much in evidence, we certainly look with much pleasure upon the signs of spring.

I regret that personally I am very little known to you delegates. Having been engaged in the coal mining industry, my acquaintance among metal men is rather limited, but I can see right now that in the very few days I will be here I shall make a good many friends, because coal mining is very closely allied to the metal industry.

So much has been said about the effect of the foreign war upon the industry that I am not going to trouble you with a further discussion of that subject, but I think you will agree with me that although we are surrounded by wars which interfere with our commerce, our industries are progressing favorably and advancing quite rapidly.

I will now open the Congress for business, and will call upon the delegates from the various states for their responses to the eloquent addresses of welcome to which we have listened.

The first on the program is the state of California, and we will hear from Mr. Seeley W. Mudd of Los Angeles.

MR. MUDD, of California: Mr. President and gentlemen: I think it is hardly fair to a great state like California to have me designated to respond in her behalf, and especially upon sudden notice. It is a great state, and the response should be a great one by a great man. I am sorry that it cannot be so arranged. I am free to say, however, that I think

California has been and is as fully behind the Congress as any of the states. I do not mean by that that California has done its full duty by the Mining Congress; I think few states have done that. I trust that this meeting may be one where there may be a large measure of support started for the Congress. The Congress has proven its value by its work. If you will look back ten years or longer and remember what the Congress was then I think you will find that the tone today is better, the interest greater and the influence of the Congress has been very much increased. I think, therefore, we may reasonably look forward to a greater field of usefulness. The usefulness must come from individual effort combined into a united effort. That can only come through proper support by the different states. I trust that this meeting will result in a more adequate support from this time forward, and that California will not be second to any of the states in contributing to that added support to which the Congress is entitled. (Applause.)

PRESIDENT SCHOLZ: It will be my pleasure to call upon Mr. Brunton, the son of a former president of the Congress, to reply on behalf of the state of Colorado.

MR. FRED K. BRUNTON, of Colorado: Mr. President and fellow members of the American Mining Congress: I did not come prepared for any speech, and I cannot say much, because this is my first attendance at a meeting of the American Mining Congress. I would like to thank the people and citizens of Phoenix and Arizona for the hospitality and the hearty welcome they have shown us and leave the floor to some of the older members who may have more to say about it. (Applause.)

THE PRESIDENT: Accepting Mr. Brunton's suggestion that we call upon one of the older members, I am going to call upon Mr. Harry Day, who has been very active in the Mining Congress for many years, to reply on behalf of the state of Idaho.

MR. DAY, of Idaho: Mr. President, ladies and gentlemen: In rising to respond on behalf of the state of Idaho, I feel very much in the same situation as my friend from California. We have people in Idaho who can make a speech. A good many of them are in politics; some of them are in the mining business; but, unfortunately, none of them are here today. I simply want to express on behalf of Idaho our deep appreciation of the cordial welcome and most generous hospitality which have been tendered us on all sides. I am sure we will have a pleasant and very profitable session of the Mining Congress. (Applause.)

THE PRESIDENT: Mr. Charles W. Burgess is going to represent the state where they say, "You have got to show us," namely, the state of Missouri.

MR. BURGESS, of Missouri: Mr. President and members of the American Mining Congress: We seem to be all in the same boat. This is my first notice that I represented Missouri and would be expected to respond on behalf of that state. I am sure that other delegates from Missouri will arrive later. But we do accept with fullest appreciation the most hearty welcome and generous hospitality that have been extended to us here. We know what the American Mining Congress has done in our district. I remember a few years ago we thought they were "kickin' our dog aroun'," but our dog in this case happens to be a yellow dog. His name is Jack. We thought we were not given a square deal and wished to have legislation along the tariff line. We lacked the necessary organization, we were not equipped for anything of that sort, but we found in the American Mining Congress the agency through which we could present our case. I just give that as a typical example of some of the needs that the American Mining Congress supplies in case of necessary action in the mining business, and it is constantly extending its influence and be-

coming a more powerful agency for the promotion of the mining industry along legitimate lines.

I thank you for the opportunity of saying a word on behalf of Missouri. (Applause.)

THE PRESIDENT: I am going to call on Mr. R. C. Allen, state geologist, of Michigan, to speak on behalf of that state.

MR. ALLEN, of Michigan: Mr. President, Gentlemen: It is indeed an honor to be called upon to speak in behalf of the state of Michigan. I am advised that there is no one else here to represent our state, the honor thus falls upon me by default and I am consequently afraid that Michigan will not receive her just dues.

It is indeed a pleasure for us who live East of the Rocky mountains to get this far West, and I wish that I had words to express adequately our appreciation of the hospitality of the people of Phoenix and Arizona. I have been among you only twenty-four hours. I came here a total stranger, but I adopted one of your good western customs and began getting acquainted by talking to the first men whom I met. Yesterday as I wandered about your city here and there I discovered that every man whom I met and accosted was a genial, whole-souled, good fellow and moreover was perfectly willing to talk about Phoenix. (Applause.)

We have in Michigan a lot of boosters for our state. We have a Northern Peninsula Development Bureau, a Western Michigan Development Bureau, and an Eastern Michigan Development Bureau, and we have an official at the State Capitol who is an expert professional booster for the whole state, but with all this fine equipment we must confess that we are merely amateur boosters compared with the people of Arizona. Many of our people find their way out into the West and after a few of these trips those of us who come back find that our "boosting" hearts are fainter, for the lure of the West is upon us. We believe that the West is a good place to come to and when we depart we always wish to come back for another visit even if not for permanent residence.

I am sorry that more Michigan men are not here. Michigan ought to be more strongly represented for Michigan, as you know, was the first state in the Union to introduce the mining of copper and iron ore on a large scale and we are still mining both on a larger scale than ever before. I think that one of the reasons for our small representation refers to the fact that the problems which confront the mining men of the West are in large degree those that we in the Lake Superior region do not have to contend with. We have no government mineral lands and very little government land of any description, therefore the national policies of conservation sit very lightly on us, in fact they hardly touch us. But we who are close to the mining industry and the men who are in the mining industry are of one and the same fraternity, and we extend to you men of the West a word of sympathy in your endeavor to secure some governmental relief in certain directions from the difficulties under which you are laboring.

And now on behalf of the Governor of Michigan, the mining men of Michigan, and the people of Michigan, permit me to say again that we appreciate most thoroughly these cordial, kind-hearted, genial words of welcome from the people of Phoenix and of Arizona. (Applause.)

THE PRESIDENT: Mr. L. A. Friedman is going to tell us something about the great mining state of Nevada.

MR. FRIEDMAN, of Nevada: Mr. President and fellow members of the American Mining Congress: This is rather an unexpected pleasure, as, while I have been a member of the American Mining Congress for a number of years, I am not here representing any organization, nor am I here as a delegate. I just happen to be here. Being largely interested in

Nevada, in the development of mines and the production of gold, of which the whole world at this time seems to need so much, I thought I would come and attend this convention. For this I had two reasons: in the first place I thought I might learn something; my second reason was that I thought that in the years of experience I have had in mining if I have gained any knowledge that might be of any benefit to the mining industry, if I could do anything or make any suggestion that might be of any benefit to the industry, I would be here and willing to do so, and since I have come here I have met so many intelligent and sincere men that I am truly glad I am here. I have not been delegated here, consequently I am not in position to speak for the state of Nevada, although I wish to state this—that you can all bet your lives that the state of Nevada and its mines are all right.

I thank you. (Applause.)

THE PRESIDENT: The sister state of New Mexico, which I think came into the Union at the same time as Arizona, will be represented by Mr. W. A. Fleming Jones, speaking for the state of New Mexico.

MR. JONES, of New Mexico: Mr. President and delegates to the seventeenth annual session of the American Mining Congress: In common with the gentlemen who have preceded me, I can only say that nothing was further from my thoughts than being asked to respond to the addresses of welcome on behalf of the state of New Mexico this afternoon; but since I have been called upon I will try to say a few words which will give you an idea of our appreciation of the sentiments that have been expressed by the gentlemen who have welcomed us. These words of welcome are the more appreciable to us when I recall that some eight years ago, through the efforts of a particularly zealous delegate in the Congress of the United States, an act known as the joint statehood bill was passed by which we were authorized to come into the Union as one state. We voted on the proposition, and New Mexico was strongly for it while Arizona did not care to be wedded to us in just that way; in fact some of your citizens were unkind enough to say that they didn't see how they could take a good egg and a bad egg and make a good omelette. Now, I do not know whether they referred to us as the good egg or the bad egg. However, that is all past and gone, and I hope there is no feeling on the subject now. At the time of the celebration that was held in El Paso in 1911 after the final passage of the statehood bill it was my privilege to meet Governor Sloan of Arizona and other gentlemen from this state, and I am quite sure that all feeling over the joint statehood proposition is entirely a thing of the past. Our interests are almost the same as yours. We have great undeveloped resources, and I am sure that we can and will co-operate with a view to their development. I am not here as a representative of the state of New Mexico, but of the town of Las Cruces, in the southern part of the state, but I think I can say in behalf of the people of the state and of my town that we deeply appreciate the sentiments that have been expressed. I thank you. (Applause.)

THE PRESIDENT: It is a far jump from New Mexico to Ohio, but Mr. C. D. Jury will tell us how he got here and what he has found and how well he likes Phoenix.

MR. JURY, of Ohio: Mr. President and gentlemen of the Congress: It would be a long story for me to tell you how I got here, but it is a pleasure to tell you what I have found in the few hours I have been in Phoenix. It could be summed up in one word—"Welcome." I had not expected to be called upon to respond for the great state of Ohio, but Ohio sends you greetings, and Ohio is with the American Mining Congress. We know that it can do a good work, and my only regret is that our state is not better represented here. On behalf of the mining interests of Ohio

I want to assure you that the work of the Mining Congress is greatly appreciated by us. (Applause.)

THE PRESIDENT: Next to Arizona in age of statehood is the state of Oklahoma, quite a young baby, some seven years old, and I am going to call on Mr. D. C. McAlpine to tell us something about Oklahoma.

MR. McALPINE, of Oklahoma: Mr. President, on behalf of our state I would say that Oklahoma is progressive and desires to assist in every movement that is for the benefit of mining in general, and of course that includes the work of this Congress. In the work of the Bureau of Mines, which is a product of the American Mining Congress, the state of Oklahoma and the mining men of that state are assisting in every way possible to bring about better and safer conditions of mining as well as the conservation of our resources, and we are glad to be represented in this Mining Congress here in Phoenix. (Applause.)

THE PRESIDENT: The last session of the Congress was held in the great state of Pennsylvania, and we have with us a gentleman from the city of Philadelphia, Mr. William B. Rudderow, who will tell us something about Pennsylvania and his home city.

MR. RUDDEROW, of Pennsylvania: Mr. President, I want to say that I am a young member of the Congress. I have a great deal to learn and not very much to say. I have not been in the mining business, and therefore I am not in position to make any remarks on that subject that will be of interest to you. I thank you, however, for the invitation to speak in behalf of my city and state, and desire to express my appreciation of the cordial welcome and splendid hospitality extended to us by the people of Phoenix and Arizona. (Applause.)

THE PRESIDENT: One of the first presidents of the American Mining Congress that I knew well was Mr. John Dern, who is also well known to you, and I was very sorry to learn that he could not come here today, but I was pleased to meet a chip of the old block this morning in the person of his son, Mr. George H. Dern, of Utah, who will tell us something about his state.

MR. DERN, of Utah: Mr. President and gentlemen of the American Mining Congress: Utah people have the highest regard for their next door neighbors of Arizona, and are always glad to visit them. Possibly I should use the word "always" with some reservation, for I remember that I was up here in the little mining camp of Chloride one day in July, when it was 118 degrees in the shade, and very little shade, so I felt that I had had a warm reception. But I have also been down here in the winter season, and I know that the Arizona winter climate is the finest on earth, barring none. But anyway, we don't hold the Arizona people responsible for the kind of weather they have down here, hence we are happy to meet with them at any time, and on behalf of the Utah delegation I want to thank them for their friendly welcome, and express our appreciation of their bounteous hospitality.

Speaking of hospitality, I have heard that in South American countries if you express admiration for your host's horse, or watch, or any other possession, he at once offers to make you a present of it. Now, we in Utah have a very ardent admiration for a certain strip of land lying between our southern boundary and the Colorado River. If I am not mistaken, we have occasionally given audible expression of this admiration within the hearing of Arizona, but the 1914 maps show that this strip is still a portion of the state of Arizona. Of course, it is not for us to find fault with our neighbor for not having adopted the South American standard of hospitality. If she had, we should be under the painful necessity of becoming equally polite, and declining the proffered gift with thanks, and then we would be right where we are now. But I think

Utah long ago learned to keep the commandment, "Thou shalt not covet thy neighbor's Arizona strip." And so we are the best of friends, notwithstanding the fact that we are such near neighbors, which I have observed is not always conducive to close friendship. But all these mountain states are coming more and more to realize that state boundaries are artificial boundaries, that their interests and their problems are identical, and that they ought to join forces and work together.

I have often heard of the wonderful Hassayampa River, of whose limpid waters every loyal son of Arizona takes a drink, and thenceforth never again speaks the truth. If we had a Hassayampa River in Utah there might be some advantage in coming so late on the program of these responses, because one would know by that time how hard to boost in order to make one's own state look more important than all the rest as a mineral producer. However, not having the benefit of the magic waters, I must confine myself to the literal truth. With becoming modesty, I shall neither attempt to catalog Utah's mineral resources in detail, nor give you any of that keen delight which comes from listening to a lot of statistics.

So I will put it mildly and say that Utah has gold enough to pave the streets of the New Jerusalem. She has silver enough to put an appropriate lining on every cloud, be it political, industrial, financial or otherwise. She has copper enough to make all her rival states turn green with envy. Perhaps that is putting it pretty strong when we go up against Arizona, but then, copper is a white elephant just now anyway, and the people who have copper are to be pitied rather than envied, so we will let that pass.

Utah has so much lead that its very weight keeps her from rising to an eminence beyond the view of ordinary states. She has a whole county full of iron, that has not been touched, and that will some time make her the Pennsylvania of the West. She has coal galore; and I want to tell you right now that nobody need worry about this old world running short of fuel, so long as Utah is on the map; and we have no immediate intention of getting off the map. Our hydro-carbon deposits are stupendous, and are growing into a very important industry. These and countless other resources have scarcely been scratched, and we therefore feel that we are not over-sanguine when we expect some day to be the very first state in mineral production, instead of the second, third or fourth, or wherever we are placed now.

In ore-dressing and metallurgy, Utah is second to none, either in magnitude of operations or in advanced methods. The immense concentrating mills of the Utah Copper Company, at Garfield, treating 20,000 tons of copper ore per day, are among the modern wonders of the world. The smelters at Murray, Midvale, Garfield and Tooele are among the largest and most up-to-date that have ever been built. The cyanide process, which has revolutionized gold mining, had its first successful American application in Utah. Vacuum slime filtration, which subsequently revolutionized the cyanide process, and vastly broadened its scope, was invented in Utah. And now we are coming along with a new method of chloridizing roasting, by means of which siliceous gold, silver and copper ores are treated with remarkable cheapness. This promises to rank as another great metallurgical achievement.

In short, Utah mines have contributed liberally to the world's wealth, and Utah men have contributed liberally to mining science and to the store of human knowledge. I thank you. (Applause.)

THE PRESIDENT: All the wealth of our mines would not avail us very much if we had not somebody to buy our products, and I am going to call on Mr. H. C. Holthoff of Milwaukee to tell us what the great state of Wisconsin thinks about the mining business.

MR. HOLTHOFF, of Wisconsin: Mr. President and members of the American Mining Congress: I did not come prepared to make a speech. About all I can say is that the state of Wisconsin appreciates the hearty welcome we have received at the hands of the state of Arizona and the city of Phoenix, and to express the hope that the session of this Congress may result in material benefit to the mining industry. (Applause.)

THE PRESIDENT: When we speak or think of Texas we have in mind a long-horned Texas steer or the large grain and cotton fields of that state. But Texas is also a great mineral state, as many of us know, and Dr. Wm. B. Phillips can tell more about it than all of us put together, because he is making a study of it and I am going to call on him to tell us what his discoveries are.

MR. PHILLIPS, of Texas: Mr. President and Members of the American Mining Congress: I am always prepared to make a speech. I am very much obliged for the opportunity. (Laughter.) But I feel so in the dark. This is the first time I have ever had the pleasure of addressing an audience composed largely of ladies and being unable to say "My fellow citizens."

I am reminded of a famous speech that was delivered in the city of Louisville, Kentucky, some years ago. At a great banquet there a silver-tongued speaker was asked to respond to a toast to Woman, and everybody expected a magnificent speech, because he was a splendid orator. He rose and waited until there was complete silence, and raised his glass and said, "Here is to woman, may God bless her. Formerly our superior, now our equal." (Laughter.)

I wish to express, on behalf of Texas, our appreciation of your most cordial welcome and generous hospitality on this occasion. I cannot come West, into this part of the country, without feeling the greatest obligation to Arizona and Phoenix for the affectionate and whole-souled character of their hospitality. Together, I think Arizona and Texas could rule the world. You have enough gold and silver in Arizona to pay off the national debt; we have enough iron to run the furnaces of the world for a thousand years; you have enough copper to copperplate the sun, moon and stars and all the other flag stations of the Universe. (Laughter.) We have enough coal to melt all the Antarctic ice, and we have enough oil to lubricate the wheels of time and to grease the mills of the gods that are said to grind so slowly; we have enough natural gas in that state—and some out of it just now—to melt the whole world and leave of it only a pile of sinter surmounted by a salamander solemnly waving its tail and calling for enchiladas and tobasco sauce.

When one gets to speaking about Texas he speaks for three weeks. I have never seen a man from that state, even if he had only passed through the state, who had any sense of time whatever when he began to speak about Texas. But I will not tire your patience. I would, however, invite you to come over into the state of Texas at any time; and, speaking of latch-strings, we haven't any. We took the door down long ago and threw it away.

Some time ago there was a killing in our state—a very rare occurrence (Laughter)—and when we are so fortunate as to have the same law in Texas as you have in Arizona of course there will not be any killings at all. The man charged with the murder consulted his attorney and wanted to know what on earth he should do. "Well," he said, "you haven't any case at all. You had better get out of here." "Well," said the client, "I would like to know where I am going. Ain't I in Texas now?" (Laughter.) He came to Arizona, and would have been here now but for the fact that the rumor of prohibition reached him in time and he went back home. (Laughter and applause.)

THE PRESIDENT: Very few of us know that Florida does anything else but grow grape fruit and oranges, but it has some phosphate mines, and therefore is a mining state. Florida is ably represented here by Mr. F. E. Marriner, who will respond on behalf of that state. (No response.)

Is there any other state represented here which has not been called upon. If so, will the gentleman please rise and be heard from? (No response.)

There doesn't seem to be. I have called on thirteen states. Thirteen is my lucky number, and I hope that it may be an omen of the success of this meeting.

I want to make one announcement before we proceed, namely, that the meeting at the Woman's Club that was called for 7:30 has been postponed to 8:30, I presume to afford additional time for primping, so don't be one hour too soon.

MR. JOHN W. FOSS, of California: Mr. President, I move that a committee be appointed to formulate a response to the letter from the President of the United States.

(Motion seconded and carried unanimously.)

THE PRESIDENT: I will appoint the committee later.

SECRETARY CALLBREATH: The committee on resolutions is made up of one member from each of the states represented in the convention, chosen by the members of the delegation present. This plan is followed so that the control of the resolutions committee may be entirely removed from the management of the Mining Congress, in order that the resolutions may thoroughly and fairly represent the sentiment of the delegates. Will you kindly, therefore, assemble your state delegations sometime this afternoon or evening, or at least before the opening session tomorrow morning, so that at the opening of the meeting tomorrow morning as the states are called you may make response nominating the person whom you expect to serve upon the committee on resolutions.

I might say that heretofore the responses to the addresses of welcome by the various states have taken so much time when notice was given to those who were to be asked to speak that it was thought better this time not to give notice.

THE PRESIDENT: On the committee suggested by Dr. Foss I will appoint Dr. John W. Foss, Mr. Geo. H. Dern and Mr. J. F. Callbreath to draft a letter to President Wilson in reply to his communication read here this afternoon. Is there any other matter to come before the Congress now? If not, we will take an adjournment.

The following telegram was sent to President Wilson:

The President, the White House, Washington, D. C.:

Sir—The American Mining Congress, in Seventeenth Annual Session assembled at Phoenix, Arizona, gratefully acknowledges your kind letter of greeting and encouragement. We especially appreciate your deep interest in the movement to reduce the hazards and the waste in the mining and mineral industries of this country; and the members of the Mining Congress pledge you their hearty co-operation in carrying forward the great movement looking to the accomplishment of these purposes.

We respectfully ask your further aid in securing the enactment of such much needed legislation as will make effective the yet unfulfilled pledges of the majority party given in its last national platform and often repeated, looking to a proper enlargement of the now inadequate work of the national government for increasing safety and efficiency and for the general advancement of mining as one of the nation's two great foundation industries.

CARL SCHOLZ, President.
J. F. CALLBREATH, Secretary.

December 7, 1914.

Meeting adjourned.

EVENING SESSION.

(At the Woman's Club Building.)

8:30 p. m.—Meeting called to order by Mr. Power Conway. President Carl Scholz was presented and delivered the President's Annual Address, which will be found at page 129 of this report. After the address the ladies of Phoenix tendered a delightful reception to the officers and delegates.

TUESDAY, DECEMBER 8, 1914.

Morning Session, 9:30 O'clock A. M.

THE PRESIDENT: The first thing in order is the reading of the list of members of the Resolution Committee, and the secretary will call the roll of members of the different states, which will respond by giving the names of their respective members of that committee.

The Committee on Resolutions.

Arizona	Norman Carmichael
California	Seeley W. Mudd
Colorado	W. G. Swart
Florida	F. E. Marriner
Idaho	Harry L. Day
Michigan	R. C. Allen
Missouri	Charles W. Burgess
Mississippi	F. G. Jewett
Montana	D. McKenzie
New Mexico	Rees H. Beddow
New York	J. R. Burton
Nevada	L. A. Friedman
New Hampshire	C. M. Donohoe
Oklahoma	D. C. McAlpine
Pennsylvania	W. V. Rudderow
Texas	S. H. Worrell
Utah	Imer Pett
Wisconsin	H. C. Holthoff

THE PRESIDENT: The report of the committee on Taxation of Metalliferous Mines will be presented by Mr. D. L. Webb of Denver, chairman of the committee.

MR. WILL L. CLARK, of Arizona: Mr. President, so far as I know, I am the only member of the committee present. Mr. Webb has asked me to present the report, and I have a word of explanation to make. As is common in these Mining Congress committees, unless the committee is continued for several years and it has an opportunity to meet at the convention, a new committee like this usually does not have any meeting at all. I have had some correspondence with Mr. Webb, who has taken the suggestions made by the members of the committee and endeavored to embody them in the report. For that reason this report is not altogether satisfactory either to Mr. Webb or to myself, but in order to bring up the discussion we thought best to present it. Yesterday afternoon I was given the proof of the report. As it is quite long I will not attempt to read it at this time, because it has been printed. I will send up the report. I suppose after any discussion that may come up it will then be proper to determine what shall be done in regard to its adoption, so I will not now make any motion to that effect, but if desired, it may be referred to the Committee on Resolutions.

SECRETARY CALLBREATH: Some members of the convention do not seem to have copies of the report. There are plenty of them ready for distribution in the rear of the hall.

THE PRESIDENT: Mr. Thomas E. Campbell will lead the discussion on this paper under the five-minute rule.

SECRETARY CALLBREATH: Before proceeding, may I suggest that that five-minute rule be disregarded in this instance? I do not think that it is possible for any one to discuss a question so large as the question of taxation in five minutes, and I would suggest that a more extended time be allowed.

MR. DERN: If the members are expecting to discuss this paper it seems to me it would be a good idea to have it read so that we may have some knowledge of the subject before the discussion begins. A printed copy has just been handed to us and nobody has had a chance to read it.

THE PRESIDENT: The purpose of distributing the copies in advance was to give a chance for everybody to inform himself; but if it is deemed desirable to do so it will be read.

SECRETARY CALLBREATH: The report was agreed upon so late that this is the earliest possible moment we could have it printed.

A DELEGATE: Mr. President, I move that the report be read.
(Motion seconded and carried unanimously.)

(The report was thereupon read by the secretary, and is as follows:)

Report of Committee on Mine Taxation.

Denver, Colorado, Dec. 7th, 1914.

Mr. Chairman and Members of The American Mining Congress:

Gentlemen: The Committee on Mine Taxation of the National Tax Association, in reporting to the Association's meeting, held at Buffalo in October, 1913, said:

"The subject submitted to the committee is an exceedingly complex one, and on many of the phases the committee feels the need of longer time for study and investigation. For that purpose it is recommended that the committee be continued."

It appears that the action heretofore taken by the American Mining Congress as such, and by its individual members in their respective localities, has begun to bear fruit; and has resulted, at least, in persuading the members of the National Tax Association, as well as the various assessors and tax commissioners who are members thereof, that the taxation of mines is a subject worthy of careful consideration, having its own peculiarities, requiring special treatment and of sufficient importance to justify a standing committee.

It is the belief of this committee that mining claims, for taxation purposes, may always be safely divided into two distinct classes, i. e., non-producing mining claims and producing mining claims.

Non-Producing Claims.

No matter for what reason a mining claim may be non-productive, it should be classed as a non-producing mining claim, and no value attached for taxation purposes, by reason of the existence of known mineral contents, unless that mineral is being actually marketed at a profit.

The Legislatures of different states have shown surprising variations when guessing (it can be termed nothing else) at the value of non-producing mining claims for taxation purposes; for instance, in Montana non-producing mining claims are assessed at a value of \$5 per acre, while in Nevada they are assessed at \$50 per acre, and in another state, under the tax law, it is provided that the non-producing claims, when owned by

a corporation, may be assessed at a value represented by the capital stock of the corporation.

One of the members of this committee, in a paper submitted at the last convention of The American Mining Congress, suggested that the proper criterion for the assessment of non-producing mining claims was the price at which the Federal Government sold the ground to the patentee, to-wit: \$5 per acre; and submitted the query that if this was not proper, in fact the only, criterion of the value of such ground, then what was? This committee has neither seen nor heard a direct answer to this query; but the committee of the National Tax Association, above referred to, did say:

"The mineral content and value of unexplored and undeveloped ore bodies, patented mines and mining claims, is frequently so uncertain that for this class of property there is ample justification for conservative treatment, and even for postponing the full possible claim of the state until actual knowledge of the situation can be obtained."

Along this same thought the committee notes an expression in the report of the Wisconsin Tax Commission for 1910, where it is stated:

"It would be more logical and tend to better administration if the lands (non-producing mining claims) were assessed without regard to the minerals."

This committee appreciates that non-producing mining claims ought to be assessed and a reasonable tax collected therefrom; but since no man can tell whether a non-producing mining claim is of any value, until actual operation begins, it submits that the only fair and reasonable rule is as follows:

"Non-producing mining claims should not be assessed upon a value higher than adjacent land, **not** assessed for mining purposes, is assessed."

Producing Mining Claims.

It is safe to say that the producing mining claims will pay the great bulk of the mining taxes in any state, wherefore this committee has devoted more attention to the question of the proper basis of taxation of producing than of non-producing mining claims. There appears to be two well defined theories for the taxation of producing mining claims. One, an ad valorem tax, and the other an income tax.

This committee is firmly of the opinion that a tax upon the **net** income of producing claims, is the only method which is fair to the state, in the first place, to the mining industry, in the second place, and between the various producing claims of a state or district, in the third place.

The vices of the ad valorem system of taxation of mining claims become apparent upon a superficial study of the subject, and become expensive and disagreeable realities wherever and whenever the system is in vogue.

The State of Michigan, when putting a system of taxation of mines on an ad valorem basis into operation, went so far as to employ a very competent engineer to make an appraisal of the value of the mines and mineral lands within each taxing district. This was an attempt by that state, of course, to operate the ad valorem system upon as fair a basis as was possible to the state and the mining industry. The value of the mines to be taxed upon that system was calculated upon the following main factors:

A.—Ore reserves. B.—Average annual production. C.—Cost of production. D.—Average price to be obtained for product. E.—Average annual profit, and, F.—Rate of interest or value of money.

It would seem, at first blush, that the factors taken into consideration ought to result in a proper valuation of the mines for taxation purposes; but that such uncertainties as would render the system impracticable for taxation purposes were bound to obtain have been very closely demonstrated in a recent scholarly article by Mr. Heath Steele, of New York, who says:

"No one can dispute that a stated annual income for a certain number of years has a present value easily determined at a fixed rate of interest. If this were all for a correct appraisal, I should not question the fairness of this system of taxing. But as my idea of the principle involved requires a system which takes from each in the same proportion, there must be no liability of error in the method of assessment. Working from this point of view, let us take up each main factor as previously stated.

"A—To arrive at the amount of ore to be considered in an appraisal of this kind we must not only consider fully developed ore but all indications for further extensions of ore bodies beyond mine openings. Here we run into difficulties much greater than are encountered in measuring developed ore. The developed ore factor is more or less approximate, but estimates of further extensions are bound to vary greatly from fact. However, these are not the only obstacles in the way of a correct statement of ore reserves. The average content of valuable minerals is a very difficult factor to determine correctly for a large ore reserve and is in most cases a guess, regardless of elaborate sampling and inferences that may be drawn as to the uniform contents within certain blocks. The best we can do is to concede that the ore reserve factor is an estimate consisting of two basic factors, both of which may be wrong.

"B—The factor of average annual production not only serves to determine the length of life but the average annual profit. If the rate of production is greater than estimated the profit will be more or vice versa. B. is dependent upon A. and is subject to the errors of A.

"C—The cost of production may be closely estimated. I say estimated because no matter how much of a record one may have to judge from, future expectations in connection with costs are no more infallible than the assumption of the ore reserve factor. This is particularly true where metals of changing value are involved, for, granting the cost per ton of ore is the minimum, a lowering of the grade of metal content will increase the cost of the metal.

"D—The factor of average price to be obtained for the product is a presumption and nothing else. One man's judgment may be better than another's because he has studied the supply and demand and is conversant with all market governing factors, but we cannot grant him the powers of a true prophet.

"E—This factor, the average annual profit excepted, is the sum of all the errors of A., B., C. and D., all of which will reflect in the profit. If the average price to be received for the product is a correct assumption, so far as it relates to the average price for the whole period, the average annual profits may be the sum estimated. But the present value obtained by this calculation and the present value that may be obtained at the exhaustion of the mine with the actual annual earnings as a basis will hardly be the same. This is particularly true with the metals that fluctuate widely in price. If, during the first half of the operating period, the price of metal should be lower than the average used, the actual present value of the property will be less than estimated. If higher prices are secured the value will be raised. A fair check will only be made when a practically uniform price prevails or the highest prices are received during the middle of the period.

"F—The rate of interest is a factor that may be adjusted to suit the individual in private work. For taxation purposes the worth of money is a debatable question, but a rate should be used that will represent the actual earning power of the money without special effort. If the business is hazardous, all factors of safety will properly have been provided in the basic factors.

"Here it is shown that the only calculation involved in mine appraisal for which we can absolutely vouch as being correct is the deferring of the expected annual income at a fixed rate of interest. We may have errors in each of the five main factors together with those in the basic factors of which they are composed. I do not think that the most ardent advocate of mine taxation on a valuation basis will, if he considers the presumptive character of the data necessarily involved, contend that an equitable distribution of tax burdens can be accomplished by this method. It is impossible to value any mine correctly until it has been worked out, therefore, if we attempt to value a number of mines in a taxing district some will surely be assessed too high and some too low."

It is because of those things pointed out by Mr. Steele that such great students of taxation as Professor Skelton of Queen's University, Kingston, Ontario, has said:

"The positive reason for preferring the tax on the output is its greater certainty. Any estimate of the value of the minerals in the ground must, it is felt, contain a large element of guess work—diligent and scientific guess work it may be, but guess work still."

and Professor Edward A. Seligman, McVickar Professor of Political Economy of Columbia University and President of the National Tax Association 1913-14, said:

"The difference between the earnings system and the ad valorem system is the difference between publicity and secrecy, between certainty and arbitrariness, between simplicity and complexity, between precision and guess-work—in short, between modernism and medievalism.

"If, then, the earnings tax is to be preferred to the ad valorem tax, the question remains, Shall it be gross earnings or net earnings? As a matter of principle it is conceded by all writers that net earnings approach more closely to the ideal method."

If, then, an ad valorem system of taxation of producing mines is wrong—and the experience of mining men, tax experts and college professors who have made it a special study, to say nothing of the practical demonstration of it when in operation, all show it to be wrong—then there remains but one other method for the taxation of producing mining claims, to-wit, a tax upon income.

The first question to be determined upon a tax upon income is whether the whole or any portion of the gross production should be included in the valuation of the mine for taxation purposes.

There is no question in the minds of this committee that no portion of the gross should be included; and the point may be illustrated by the existing conditions in Colorado and Arizona; such being, we believe, fair examples of the results obtained and to obtain wherever the gross proceeds are considered in valuing a mine for taxation purposes.

The Colorado law provides that one-half of the gross plus all of the net shall be the value of the producing mine for taxation purposes. A couple of very extreme examples will illustrate the possibilities of this law in its operation, as between producing mines under differing conditions; for instance:

First Extreme: Mine A. B. produced \$100,000 gross in given year; its entire expense was \$1,000; its net therefore is \$99,000. Its tax value therefore would be calculated thus:

½ Gross	\$ 50,000
All net	99,000

Tax value\$149,000 rate 3%—\$4,470. approx. 4½% of net.

Second Extreme: Mine C. D. produced \$100,000 gross in a given year; its entire expense was \$99,000; its net therefore is \$1,000; its tax value therefore would be calculated thus:

½ Gross	\$ 50,000
All net	1,000

Tax value\$51,000 rate 3%—\$1,530. 153% of net.

Of course no mine producing \$100,000 gross per year is going to have either \$1,000 or \$99,000 net, but some figure between these extremes; however, it is a simple calculation to demonstrate what two mines producing \$100,000 gross per annum, one with a net of \$50,000 and the other with a net of \$25,000, will have a differential running against the mine with \$25,000 net (on a 3% rate) of approximately 50%.

In fact, in a recent case decided by the District Court of Teller County, Colorado, the actual disparagement existing between two well known mines, are shown in the words of the court, as follows:

"By way of illustrating the inequality resulting in this case, I call attention to the following:

"It is shown by the evidence that the Cresson Company's gross proceeds for the year 1913 were \$537,603.58; its net proceeds \$373,140; assessment under the Act 1913, one-half gross proceeds plus net, \$641,941.79. The Portland Company's gross proceeds for the year 1913 were \$862,642.34. Its net proceeds, \$315,160; assessment under the Act 1913, one-half gross proceeds plus net, \$746,481.17. It will be noted that the gross proceeds of the Portland exceeds those of the Cresson Company by over \$325,000; that the net proceeds of the Cresson Company exceeded those of the Portland by nearly \$58,000, while the Portland was assessed under the Act of 1913 on over \$104,000 more than the Cresson. Such gross inequality as the above cannot be avoided if the Act of 1913 is to be upheld as a valid exercise of the legislative power. It is manifestly arbitrary and unjust, and lacking in the uniformity required by the constitution."

The same results in a lesser degree must obtain in Arizona, where the law provides for the valuation of a producing claim for taxation purposes upon a basis of 12½% of the gross plus four times the net, using the same extreme examples that were used to illustrate the Colorado situation, it will be found that the mine with \$99,000 net will pay a tax equivalent to 12½% of its net; and a mine with \$1,000 net will pay a tax equivalent to 50% of its net; and in the examples illustrating the Colorado difference between the mines with a net of \$50,000 and \$25,000 there will be a differential against the mine with a \$25,000 net of approximately 8½%. The reason, of course, that there is not such a difference between the \$50,000 net and the \$25,000 net mines in Arizona, as there is in Colorado, is because in Arizona only 12½% of the gross is used for valuation purposes. That the Colorado law works out as illustrated in the above examples and in the Cresson-Portland case, is verified by the fact that in the year 1913 the gross production of the Colorado metal mines was \$35,450,585 (U. S. Geol. Sur., 1913, p. 227). While metalliferous mining properties were assessed for the same year \$46,042,047 (Colo. Tax. Com. Rept., 1913, p. 129). Thus it will be seen

that the metalliferous mines of Colorado paid taxes on approximately \$10,600,000 more than they made in the year 1913.

Not only do states, which provide for the assessment of all or a portion of the gross and all or more of the net, offend man's natural sense of right and justice, but they likewise offend two fundamental principles of law concerning taxation which have been written into most if not all of the constitutions of the various states of the Union. These constitutional provisions vary in their terms, but the sense of them is the same and the following excerpts from a state constitution will serve to illustrate the principle that is written into most of them.

(a) "All taxes shall be uniform upon the same class of subjects within the territorial limits of the authority levying the taxes.

(b) "All taxes shall be levied and collected under general laws which shall prescribe such regulations as shall secure a just valuation for taxation."

The lack of uniformity required by such constitutional provisions, the gross inequality inhibited, and the absurdity of such a system of taxation are all at once manifest from the above examples.

Everyone knows that uniformity in taxation implies equality in the burden of taxation, and that all taxes must be uniform on the same class of property within the jurisdiction of the authority levying and collecting taxes and that this uniformity must be such as to result in equality of the burden.

There can be no claim of uniformity or equality where a profitable mine pays taxes at the rate of $4\frac{1}{2}\%$ of its net, and an unprofitable mine pays taxes at the rate of 153% of its net.

Not only this, but it will be readily seen that a system which taxes both gross and net must of necessity result in a double taxation. For instance, where the taxing scheme is to tax one-half the gross, plus all of the net, then one-half of the net is twice taxed, i. e., first, when it is taxed as net, and second, when it is taxed as a portion of the gross.

The same Committee of the National Tax Association in their report say:

"We are opposed for the class of mines now under consideration to the so-called gross and net methods of taxation. Gross income bears no uniform relation either to net income or to value. A mine with a gross income in any year of \$100,000 may have lost money and have no more ore to mine, or it may have made \$50,000 and have thirty such years to look forward to in the future, or it may have made \$10,000 net and have five years of similar business to look forward to in the future. With mines of very short life the gross income method tends to make the tax excessive. With mines of long life and relatively low cost of production, the method tends to yield an insufficient tax. As between mines, it is almost always unjust and unequal."

CONCLUSIONS.

If this committee is right in its conclusions that an ad valorem system of taxation is not applicable to the mining industry from any angle; and that an income tax, which includes any portion of the gross, is wrong for the reason assigned; then it remains only to determine what is a proper system of taxation on the net alone.

Upon this question men may conscientiously differ a great deal. This committee feels, however, that a few salient principles for such taxation will be accepted as fair to all concerned, i. e.:

(a) That a uniform system for determining what is meant by the term "net proceeds" should be adopted by the law making power.

This is a principle which, following the Interstate Commerce Commission, has been written into the laws of many of our states that have provided Public Utility Commissions. These commissions are required to adopt uniform systems of accounting, so that the amount earned by each public utility in the state may be shown. There seems no good reason why a uniform system of accounting cannot be prescribed for the various mines of a state.

(b) That if a tax upon the net proceeds only of mines of a state would be insufficient to produce the revenue necessary for the state's purposes, or to produce that necessary revenue would run the rate of taxation inordinately high, then a fair system of capitalizing the net proceeds at a figure which, at the prevailing rate of taxation would produce the required revenue, would be a proper system.

Respectfully submitted,

D. L. WEBB, Chairman,
L. A. YOUNG,
H. A. E. CHANDLER,
JOHN WELLINGTON FINCH,
WILL L. CLARK,

Committee.

THE PRESIDENT: I am very glad this paper was read, because I think we have all gotten a clearer idea than we would have had without reading it, and we are now going to discuss it, and I am going to ask Mr. Campbell, who is a member of the new State Tax Commission, to come upon the platform to lead this discussion.

MR. CAMPBELL, of Arizona: Mr. President and Gentlemen of the American Mining Congress: I feel highly complimented by being called upon to lead this discussion, and in fact until yesterday about noon time I did not know that the honor was to be conferred upon me. The result is that I have made absolutely no preparation. It is a question upon which so many mine owners and mining organizations and tax officials differ that I think the discussion should be, as much as possible, informal. Now, as has been well said by our good Secretary, you cannot get very far into the discussion of taxation in five minutes, and in fact we have discussed matters of much minor importance and it has taken us a week and then we didn't get anywhere. The result will be that in the few minutes allotted to me on this question I am going to confine myself to the particular phases and principles of taxation which are represented by the report before us at this time. There are just two problems confronting us, namely, whether the mine shall be assessed on the ad valorem system or the old general property tax system, or upon the so-called net production system. The argument as presented by the report which has been read is, I think, very worthy so far as it treats of the assessment upon the gross or net profit, but when it refers to the question of the ad valorem tax, particularly with reference to the Michigan system, I feel that it does not go sufficiently into the fundamental principles of ad valorem taxation. I feel, likewise, that it does not go sufficiently into the application of that tax as it is applied in Michigan, so that you do not by the report get exactly the true conditions. The question of taxation upon net results is, of course, absolutely that of an income tax. Now, very few states in the Union which apply taxes of this kind are in a position to apply any income tax. Arizona—and I speak of local conditions because I am more familiar with them—is blessed in the fact that it can apply any sort of a tax that can get the money; in fact that has been our past experience; so that it could apply here. However, in treating the question as to the relative merits of these two systems I am quite as much at sea as many of you are, notwithstanding I have given this question considerable thought and study

and have discussed it with a great many men from all parts of the state and with economists from all over the country. The reason is owing to the particular class of property with which you are dealing. Another reason is comparing its income or its revenue produced for the benefit of the state with other classes of property, which fact must always be borne in mind. In other words, fundamentally, our whole system of taxation is built upon this plan—the ability of the taxpayer, or the property, if you please, to pay its proportion of the burden of taxation, and that is fundamental in the application of the general property tax as it is fundamental in the application of all classes of taxation under our form of government. There are so many questions radiating from the different points of view as to the application of this tax that it is not altogether just a concrete case. You might say we apply this argument to this particular class, but we will not make it local, but in the last analysis it absolutely is local, my friends, and you all know that, so that I am not prepared to say at this time that I favor the ad valorem system of taxation or the application of the net income system of taxation by special legislation. I have very decided views upon that question which would embody the use of both or all factors entering into the appraising of this or any other class of property.

Now you know that I was quite right when I said I had made no preparation on this subject at all. I think probably I was called upon at so late an hour in order to throw a sort of bomb into the proposition, and if I have succeeded in that I feel that I have done well. As a member-elect of the Tax Commission you will also appreciate the position I occupy here in Arizona, not at this date having qualified in office, and that I am in no position to speak for the commission upon this question, which, no doubt, in its recommendations to the coming Legislature, so far as Arizona is concerned, will have considerable weight. Being more or less of a quasi-judicial member of that commission, I am hardly in a position to state, and in fact it would be indelicate for me to state, that I believed as a commissioner that this or that tax is correct, so that you will pardon my embarrassment at this particular time.

I do not know that I can say any more on the question at all that will be of interest to you. I hope, however, Mr. President, that I may have the privilege later on in this discussion of asking questions for the purpose of getting light upon this subject, because it is the biggest question that we tax men have to deal with in Arizona.

I thank you, Mr. President, and I thank you gentlemen of the Congress for calling upon me to lead in this discussion.

THE PRESIDENT: We would like to hear from other members on this subject of such great interest to all of us.

MR. HULL: Mr. President, in regard to the assessment of mining property, we find that other people who have property have to be assessed upon it, and I think that we should establish a uniform price for the land. I believe there should be a valuation put upon it. When it comes to the mining industry and the production of minerals the assessment of the mines should be upon the net proceeds of the mines. My idea is that there should be a value placed upon all lands that are patented. I believe that if we undertake to levy taxes and assess only upon the net proceeds of the mine the people around the country would object to that and would down this institution. Let us get the people in line and work for these things and make a reasonable assessment on the land, because the farmer has to do the same. We have to work together, and the farmers have got to work with us instead of trying to down the mining industry. They are the ones that depend upon us; they depend upon what we are doing; they receive the benefit, and every man in the United States receives the benefit from the remunera-

tion that comes from these mines, even if there is no profit to the man that is producing and working upon them. (Applause.)

THE PRESIDENT: Death and taxes are two things that none of us can escape, so that we ought to have a very full discussion of this subject.

MR. CAMPBELL: Mr. President, I do not want to be presumptuous, but inasmuch as there are two schools of thought on this matter, and inasmuch as the committee has recommended the net income tax and has made reference to the Michigan system, which is the pioneer in the use of the ad valorem system, and inasmuch as we have Mr. Allen, their mine appraiser, with us, I know we would all very much enjoy hearing from him upon this question. (Applause.)

THE PRESIDENT: Mr. Allen is going to favor us with a discussion of this matter. Will you please come forward to the platform, Mr. Allen?

MR. R. C. ALLEN, Lansing, Michigan: With your permission, Mr. President, I would prefer to speak from the floor. Being misled by your sunny and semi-tropical climate, and induced by the attractions of your beautiful valley, I went out last evening for a walk without an overcoat. When I arose this morning I found that I had lost the use of my neck and a part of one arm. Before I get through with this discussion perhaps some of you will regret that I did not also lose the use of my voice.

Before beginning this discussion I want to say most emphatically that I am not an expert in matters of taxation, neither am I an economist. However, for the past three or four years it has been my good fortune, or misfortune, as the case may be, to have had a part in the administration of the Michigan ad valorem system of mine taxation. After reading the report of this Committee, I have become somewhat alarmed, for I had never before fully appreciated the precarious position that I seem to occupy. In Michigan the general property tax extends to mines, and we are required to assess mines on the full ad valorem value, which is defined in law as the **exchange value** or **sale value**. In the capacity of appraiser of mines I am required, under penalty of six months in jail, to appraise these mines at not more nor less than what they are worth! (Laughter.) I am now informed by this Committee that it is impossible to do any such thing, so I hope you will appreciate my anxiety to learn something about this question of how mines may be taxed or rather how they may be appraised on the ad valorem basis.

Gentlemen, it seems to me that we will never make very much progress toward a permanent solution of these questions of mine taxation until there has been brought about a better understanding between mining and other classes of people in regard to methods of assessing mining property for taxation. You may be interested in a little bit of our domestic history. The state of Michigan is a mining state. I think that the value of our production exceeds that of Arizona. We have about two hundred million dollars' worth of mining property, that is to say, in deference to this report of the Committee, we think we have, and that is what we appraise them at. For a great many years the subject of mine taxation has agitated the people of Michigan. There is now and always has been in Michigan, as in this and other states, a large class of people who believe that the mining interests are not now and never have been sustaining their just and due share of the tax burdens. So far as Michigan is concerned, that belief was largely justified until the state, through its Tax Commission, took charge of the assessment of mining properties. We have now executed our fourth re-appraisal of the iron mines and it must be said that the work of the Tax Commission has gone a long way toward the solution of the problem of mine taxation

in Michigan. It has also resulted in a much better spirit between the mining interests and the rest of the people, because the publicity given to the methods of mine valuation has amounted to a campaign of education. To the farmer, for instance, has been brought some of the important facts concerning the mining industry; these have carried conviction that the industrial difficulties in the mining communities are of the same order as those which prevail among the farmers; and with this interchange of ideas there has grown up something like an era of good feeling.

Now, I hope that the American Mining Congress does not make any definite expression concerning the report of this Committee. I believe the subject is so large, that it has so many ramifications, that it is so complex, and also in view of the fact that we will have only a few minutes to consider the report, and the further fact that the majority of the delegates of this Congress are not here, that it will not be wise for the few of us who are here to take any action in the matter. It appears to me—and we are talking informally here, I understand—that this report is really somewhat in the nature of special pleading. We must of necessity look at the subject of mine taxation from the double point of view of the mine operator or owner and of the other taxpayers; we have got to consider the position of the general taxpayer as well as the position of the mine owner. I might say frankly that there are very few mine owners or operators or professional men connected with mining who would not agree at once with this Committee in their recommendation that the proper tax is the tax upon net earnings if we look at the problem from the one viewpoint alone, considering merely the interests of mining investors. But this organization exists for the purpose of bettering conditions in the mining industry, and while we are trying to do that—spreading the Gospel as it were—we should be willing also to look at our problems from the popular standpoint, to be willing to co-operate with the rest of the people in making conditions generally better. Now in Michigan we think that anything that is good for the mines is good for Michigan, and anything that is good for Michigan ought to be good for the mining industry. Now many states, either from necessity or through preference, are committed to the general property tax. Michigan is one of them. It is not my intention to discuss the merits or demerits of the general property tax, but that we have it and cannot divorce it is the practical condition that confronts us. The people of Michigan must be convinced that mining property is being treated in exactly the same manner as all other property. Neither the law nor the people can be satisfied with anything short of that. A tax on production or a tax on net income does not, in Michigan, seem to meet the conditions because it affords no means of tax equalization.

The history of our ad valorem tax dates from the year 1911. We were then considering in the Legislature the wisdom of enacting a specific tax on production—a tonnage tax. The mining men of Michigan have always fought any kind of tax based upon income or production and it has been as consistently supported by the farming element. After the matter was thoroughly discussed and threshed out in the Legislature, as a compromise measure a bill was passed which directed and empowered the State Tax Commission to make an appraisal of the mines. In order that the whole procedure might be divorced from local or political influence or bias it was deemed advisable to secure for this work an engineer and assistants who had no financial or political interest in Michigan and consequently would not be liable to be prejudiced in favor of the Michigan mines.

Inasmuch as the Michigan system has been summarily dismissed in the report of the Committee on taxation of metalliferous mines I should like to introduce at this point an explanation of this system as applied to iron mines. It has not yet been extended to Michigan copper

mines except as a test of the valuation made by the county Boards of Supervisors. Such extension is, however, contemplated by the Board of State Tax Commissioners.

The Michigan System of Iron Mine Appraisals.

The final results of the appraisal of iron mines for the purpose of taxation are determined through the application of four distinct procedures.

First. It is the duty of the State Geologist and his assistant, who is a competent mining engineer, to secure adequate information on which to base the value of each mining property. To this end there is required to be made by each mine operator an annual report to the Board of State Tax Commissioners, as of date December 31st of the year preceding, comprising: (1) A detailed financial statement, duly executed before a notary public, of the operations of each mine or mining property owned, operated or controlled by him on forms officially designed for the purpose, covering a period of the preceding five years. (2) The financial statement is required to be supplemented by a complete set of accurate mine maps showing each mine level, cross sections, records of drill holes, pits, shafts, etc.; also a map showing the boundaries of each property and the relation of the ore bodies to adjacent properties. All maps, plats, records, etc., as are required are signed, dated and duly executed by the operator or a responsible official of the company, as the case may be, and form a part of the report of the operator to the Board of State Tax Commissioners.

Second. The State Geologist and his assistant make an annual examination of the mines above and below ground for the purpose of calculating ore reserves and obtaining such other data as may have a bearing on values. When this is done the value of each property is calculated by the appraiser through methods which will be explained later.

Third. After the appraiser has calculated the value of each property his findings are reported to the Board of State Tax Commissioners who consider, with the appraiser, each of the several properties in detail and take formal action on the figures recommended by the appraiser.

Fourth. The figures which are tentatively determined by the Board of State Tax Commissioners are reported to the operators, who are given an opportunity of appearing before the Board of State Tax Commissioners in a public hearing and submitting additional arguments or information having to do with the value of their respective properties. At the conclusion of these hearings the various properties are again considered in detail by the Board of State Tax Commissioners when the final values for assessment purposes are fixed and reported to the assessors of the various assessing districts by whom they are placed on the tax rolls.

Theory and Method of Appraisal of Iron Mines.

Stated in briefest manner, the value of an iron mine is the present worth of the sum of money representing the calculated difference between total receipts from sales of ore and the cost of marketing based on the entire tonnage which the mine may be expected to produce. This difference exceeds by a large amount the actual profit to the operators for it includes the items of royalties and makes no allowance for sinking charges for general exploration which are necessarily large and continuous in order that the industry may be sustained and perpetuated.

We have now to consider how the total expected profits, thus defined, may be calculated. The calculation is the product of three factors, viz: (1) Total tonnage of available ore; (2) average annual excess per ton of receipts over actual cost of operation; (3) the present worth of

one dollar to be paid in equal annual installments for a period of years equal to the productive life of the mine. The methods by which the numerical value of these factors are determined are as follows:

1. **The factor of tonnage.** There is no general method or set rule for measuring tonnage which may be applied indiscriminately to all iron mines. It is necessary to adopt the method of calculation to the individual property because of dissimilarities in the natural or geologic conditions in the various mines and districts. The ore which is expected to be realized is considered under two classes, the **ore in sight** and the **prospective ore**. In the **undeveloped properties** much the greater part of the ore must be considered as prospective pending the development of the ore body by underground mining. The amount of developed ore in the **producing mines** may be calculated with comparative ease, but the amount of prospective ore must be determined in the judgment of the appraiser by the use of principles of geologic and mining practice. In nearly all of the mines there are certainties, probabilities and possibilities for the occurrence of ore beyond that which is actually developed. As a matter of actual practice the amount of prospective ore on which the mines are assessed for purposes of taxation exceeds the total amount of developed ore. For instance, on January 1, 1914, there were 81,261,238 tons of developed ore in the mines, to which was added by the appraiser 116,208,087 tons of prospective ore. These figures do not include 4,954,830 tons in stock on the same date which is treated as developed ore but assessed as personalty in distinction from realty. In estimating total reserves in a mining property the appraiser attempts to ascertain the total amount of ore which may **reasonably** be expected to be produced from the property.

2. **The factor of profits.** The term **profits** is here used to express the algebraic difference between receipts and actual costs as above defined. The actual cost and profit per ton is ascertained for each operating mine from its actual operating financial record over a period of five years preceding. By the use of the five-year period large fluctuations in the total valuations on account of sharp annual variations in costs and receipts have been eliminated.

It is obvious of course that an undeveloped property has no operating record from which profits may be calculated. For these properties the expectations are measured by the experience of mines under operation under similar conditions in the district in which the undeveloped property is located.

3. **The life factor and interest rate.** The product of total reserve tonnage by a demonstrated, assumed or calculated profit per ton, expected to accrue from operation, is in most cases far in excess of present value because the rate at which ore can be mined from a given property is limited by both physical and market conditions. Only a fraction of the total reserves are annually marketed and the income is therefore realized in annual installments over a period of years as the ore is mined and sold. The total value of an iron mine resides in the ore, and it follows that when the ore is exhausted all assets are dissipated, except of course the junk or second-hand value of the equipment and the value of the land for non-mining purposes. An ore body in process of mining is, therefore, a vanishing asset and the valuation of an iron mine involves the determination of the **present value** of this asset.

The **time or life factor** must therefore be taken into account. The productive life of an **operating mine** is in practice calculated as the ratio of total ore reserves to the average annual shipment based on the experience of the preceding five years. The life factor of an **undeveloped ore body** is measured in the same manner on the assumption of an average shipment indicated by other developed properties in the same class,

with proper allowance for the time necessary for development to the producing stage.

After ascertaining the average annual installment of profits and the number of such annual installments which is represented by the number of years of productive life, the total is reduced to present worth by the annuity method, using an interest rate of 6% for both principal and sinking fund. In many cases the sum thus calculated is reduced by a **safety or hazard rate** which varies from nothing up, according to the actual hazards indicated by the physical condition of the property, state of development, etc.

The above methods are applicable in general but are modified by such considerations as are pertinent to certain individual cases. Such modifications are applied in accordance with the judgments of the appraiser and the Board of State Tax Commissioners. It will not be necessary here to explain the multiplicity of cases which demand the application of judgment involving departure from the general method set forth above.

Since the Finlay appraisal of 1911 we have made three re-appraisals of iron mines, and it seems now that Michigan is committed to the ad valorem system of mine taxation. There is a class of people in Michigan known as the Grange, a farmers' organization, who are attempting to initiate a specific tax upon the production of the mines, but the members of the Grange are among the strongest supporters of the ad valorem tax. They say, "By all means let us have this ad valorem tax; it is a good tax, and we want the mines to pay a tax on their ad valorem value; but in addition to that we want them also to pay a surtax in the form of a specific tax on production at a rate that will practically double their taxes. In other words, we believe that a mining property should pay, in proportion to its value, a double rate of taxation." That is the argument back of their campaign, and they are making it squarely and openly. That is the condition the mines are facing today in Michigan, and perhaps it constitutes one reason why the mining men of Michigan are solidly back of the ad valorem system.

Now the statement is made here in the report of the Committee that the ad valorem system of mine taxation in Michigan is wrong in theory and has failed in practice. I would like to ask the Committee whether they got this information from any organization of Michigan mining men or from the Michigan State Tax Commission or from the Michigan people, for the facts, I assure you, are quite the contrary. We do not believe that the ad valorem is a perfect tax, but it has more nearly met the conditions in Michigan than any other tax we have ever had, and we have had some experience with the specific tax.

The position taken here (referring to report) by Mr. Heath Steele—and I notice he is quoted with approval by this Committee—not only magnifies the difficulties in arriving at an ad valorem value of a mine, but also his argument is inconsistent all the way through. I wish to make a few remarks on these various matters in the order in which he has taken up the discussion.

We all know, of course, that it is ordinarily impossible for an engineer or geologist or anybody else to closely approximate the amount of prospective ore in a **undeveloped** mine; but there is a lack of clear thinking as concerns the importance of this consideration in mine valuation for taxation. Is it a fair assumption that if the appraiser fails to foresee and to measure every ton of ore that exists within the boundaries of a property he will, through that circumstance alone, fail to establish the approximate value of that property for exchange purposes? Look at it in this way: Here is the city of Phoenix. The Salt River Valley may be invaded by locusts at some future time, with the consequence that all of the crops will be destroyed or damaged for several successive

years. Don't you suppose that such a catastrophe would affect the value of lots in this city? But under Mr. Steele's reasoning unless the appraiser of lots in the city of Phoenix has foreseen the arrival of these locusts and the destruction of crops and has taken account of it in his estimates of values he has failed to arrive at the true value of the lots. The experts who take the position that Mr. Steele has taken here must thereby abandon at once their own professional viewpoints. Mines are valued for purposes of sale; they are valued as a basis for expenditure in plant installation; they are valued as a basis for the marketing of stocks and bonds, and for other commercial purposes. In fact the chief business of a great many expert professional men in this country is the rendering of these valuations. These experts will admit that they are quite competent to go out and examine a property, no matter what state of development it is in, and advise the client as to its value for purposes of investment. Then why refuse to recommend such valuation for purposes of taxation? Now, gentlemen, let us lay hold of this fact—**whatever a property is worth for commercial purposes it is also worth for purposes of taxation.** That is the underlying principle of the ad valorem system of mine taxation. The valuation of a mine for taxation is merely the best possible estimate of what that property is worth in the market in the condition in which it is found on the day of the appraisal. If the mine turns out to have produced ten times the amount of ore that was estimated to be there that is no proof that the valuation on the date on which it was made was not correct, because there was taken into consideration all of the elements, all of the conditions, and all of the circumstances of whatsoever character which then did affect the value of that property for exchange purposes. The values which are hidden in the ground, which are not known to be there, which are there undiscovered, do not exist; they do not exist until they are actually discovered, and of course an appraiser is not expected to include that which does not exist in his valuation.

A DELEGATE: Do you take prospective values into consideration at all?

MR. ALLEN: We do. I will get to that just a little bit later. By the way, Mr. President, I hope you will ring me down at any time.

THE PRESIDENT: You shall have the floor as long as you wish it. We are very much interested in your talk.

MR. ALLEN: Note this. (Reading from report of committee.)

"The factor of average annual production not only serves to determine the length of life but the average annual profit. If the rate of production is greater than estimated the profit will be more or vice versa. B. is dependent upon A. and is subject to the errors of A."

Now, for practical purposes the life of a mining property may be forecasted for purposes of valuation for the current year's taxation by an observation of the ratio of total ore reserves to the average production of the mine in, say, four or five or seven preceding years. Remember, neither Mr. Steele nor the committee seems to take this into account. Let your forecast stand but for one year. You are then not looking far into the future; you are continually readjusting your forecast entirely on the basis of past experience; therefore, as conditions change, your appraisal insofar as it affected by the life factor is automatically readjusted to the changed conditions.

"The cost of production may be closely estimated." (Reading from report of Committee). It certainly can. The cost of production is a matter of record on the books of the mining companies. Now, in Michigan, as before mentioned, each mining company presents to the Tax Commission on the first of the year an itemized cost-sheet made up on a uniform plan and formally executed, showing what the cost of mining

has been for the preceding five years. From these cost sheets the appraiser is able to figure the cost of production. From the same sheet he also knows the exact amount of money which is received for the product, and from the two figures he is able to calculate the profit or loss per ton, as the case may be. There is no guess work about this. We do not take account of what is going to happen in the future. We say, here is the full operating experience of this mine; we will use it as the basis for a forecast to stand for one year only; next year we will drop an old year and take on a new one; so that our forecasts will always be made on the basis of the preceding five years' experience. Now you will see if that system is carried along from year to year it will wipe out most of these objections which are based upon inability to make accurate forecasts.

MR. CATES: Are their expenses not allowed in making that statement.

MR. ALLEN: In making up the cost statement all operating expenses are allowed including taxes as an operating expense. We do not allow capital charges or royalties. We allow any amount of money for development on the particular properties appraised but we do not allow cost of prospecting in scattered localities outside the boundaries of the mining properties themselves. In other words we must conclude in this work that the mining men are themselves the best judges of what is good mining business, and if they think it is good business to spend money in development work in trying to improve their properties by creating additional values, then that is good business for Michigan; and that money has of course got to be sunk by the proceeds of the ore actually mined.

We do not question the motives of the mining men in their expenditures; we do not substitute our judgment for theirs, when it comes to matters of that kind. Those expenses must be allowed if they have actually been incurred. And I want to say here that in three years' experience with this system in Michigan I have never found one single case where I even suspected that the mining men were trying to "put something over" on the State Tax Commission or upon the appraiser. (Applause.)

MR. L. S. CATES: What about the capital expenditures?

MR. ALLEN: If the property has been bought, the company will doubtless make provision for a sinking fund with which to replace the capital outlay. This is not a proper charge under our system. We also figure royalties as profits for royalties must be paid out of profits on the ore.

A mining property which has never made a profit or which has no reasonable prospect of making a profit pays no taxes as a mine. It represents a total loss. We wipe it off; we do not call it a mine; it is so much land. Whatever the land is worth as a farm or for city lots or for anything else, it will be assessed for on that basis, but it has no value as a mine. But the legislature has required the appraisal of all reservations of mineral rights. That has lead to the division of mineral lands into three classes known as A, B and C. Those which have reasonable possibilities of ore occurrence were put into those three classes. In all other lands, irrespective of whether there were reservations of the mineral rights in deeds or not, the mineral rights were appraised at zero. In other words, the state of Michigan does not intend to tax mineral lands wherein there are no certain evidences of mineral values.

MR. CATES: What constitutes the lands classed as A, B and C

MR. ALLEN: It would be rather difficult and would take a good deal of time to explain that. The classification is made on a geological basis.

The class A lands are the best class; class B are the second class, and the class C lands are the third class. The ratio of value between these classes is estimated to be $12\frac{1}{2}$ to $7\frac{1}{2}$ to $2\frac{1}{2}$. Personally, I made the recommendation that these lands be not taxed, because evidence of intrinsic value is lacking, but that if they must be taxed the valuation be a nominal one. Finally, after threshing the question over, the Tax Commission concluded to adopt that ratio and assessed the mineral lands at \$12.50, \$7.50 and \$2.50 per acre respectively. It is an arbitrary valuation. I do not believe that any higher value should be placed upon lands which are merely presumed to have mineral value in consequence of their geological situation or proximity to mines, etc.

To return now to the point at which I was interrupted,—likewise, referring to "B," the average annual profit assumed is governed purely by the operating record of the mine as shown on the books of the company. This forecast, like all others, stands for one year only.

Under "F" the report says: "The rate of interest is a factor that may be adjusted to suit the individual in private work. For taxation purposes the worth of money is a debatable question, but a rate should be used that will represent the actual earning power of the money without special effort. If the business is hazardous, all factors of safety will properly have been provided in the basic factors."

Now, I might say that this question of interest rate to be used in amortizing capital or in figuring present worth is still a bone of contention between the mining men of Michigan and the Tax Commission. The question of interest rate revolves about the question of the elimination of the hazards of mining. Mining is a hazardous business. The appraiser must in some way or other in his calculations of values make due allowance for the hazards of mining. Now, that can be done in a number of ways. As Mr. Steele suggests, it may be done by taking a conservative position on the value of other factors, or it may be done by allowing a large rate of interest on capital in the calculation of present worth of expected profits, say ten per cent. The mining men are not willing to agree that a smaller rate should be used. Practically, we get at it in this way: We realize that hazard rates must be varied to suit the varying hazards from mine to mine. There are some iron mines in Michigan in which the investment is safer than ownership of some bank stock. Some mines have been running for many years, year after year, at a steady profit, with almost unvarying physical conditions in the mine, and plenty of good ore. There are practically no hazards in such a mine on a conservative estimate of tonnage. On the other hand we have mines wherein the ore is low grade, the mining conditions are unsatisfactory and the hazard rates are high. Consequently we have to vary the hazard rates in accordance with the varying conditions. Now, if we were to be ultra-scientific and do the thing just right, the hazard rates should be treated as a function of the interest rate. That would involve a sliding scale of interest rates to be applied in the judgment of the appraiser and would introduce another element of complexity. We concluded finally to treat capital at the common rate of six per cent, and the sinking fund at the same rate, for the reason that in practice profits or income from mining are invested and reinvested in the mining business and by the mining companies themselves are treated as so much new capital. If that were not the case the application of the six per cent rate to a sinking fund could not be justified. The hazard rate which is applied to individual properties ranges all the way from nothing to a fifty per cent cut from the ultimate figures and is in the nature of a flat percentage. Allowance for hazards is a matter requiring the exercise of conservative good judgment and no other factor in the calculation demands more careful attention from the appraiser.

I think I have already been given more time for the discussion of this question than I have been entitled to, and I fear that I have abused

your courtesy. I will be very glad to answer any question you may like to ask about the Michigan system, and in closing my remarks I would like to emphasize a few things to which I referred a while ago. In view of the tremendous influence on public sentiment that is exercised by the American Mining Congress—and it is a tremendous influence—we should avoid committing ourselves to any general program of mine taxation. We must remember that the conditions under which mining operations are carried on vary greatly. Problems in mine taxation are varied not only in consonance with the diverse character of the mines throughout the country but also with the different social and political aspects of the question in the different states. I would not go so far as to say that the ad valorem tax, under your conditions in Arizona, is the best tax for Arizona, but I believe that the mining men of Michigan will support me in the statement, as I know the Tax Commission will, that it is the best system for Michigan. It is the best system we have ever been able to devise in Michigan. It has taken four years to develop it, and it is going to take several more years before either the mining men or the Tax Commission will be entirely satisfied with the work. It is a distinctly co-operative enterprise. The mining men of Michigan are cordially back of it, and we work together. Any man, no matter what his training has been or what his ability may be, who starts out to make mine appraisals on the wholesale plan, such as the appraisals in Arizona or in Michigan, and who does not have the active and cordial co-operation of the operators themselves, is going to fall down, because he is tackling a job which is above the power of a single human being unaided to accomplish.

Gentlemen, I thank you. (Applause.)

THE PRESIDENT: Gentlemen, Mr. Allen's discussion has been very interesting and is developing many new aspects that perhaps many of us haven't thought about. We would like to hear from others.

MR. DAY: Mr. President and Gentlemen: It may interest you to know something of the experience of practical miners and prospectors and mill men in the state of Idaho on the taxation plans in operation there. In our state we have been working for ten years under a net profit system. In thinking over our experience in connection with the report of the committee I cannot help being struck with the similarity of our experience and their views. Some ten years ago the question of taxation of mines was first agitated in the state of Idaho. Contrary to the experience of our friend from Michigan, the mining men were not only willing but even anxious to have established some equitable system of mine taxation. With that end in view they co-operated in the state legislature with the best thought of the state in all sections and the joint result of their efforts was a net profit law which has since been in satisfactory operation. In accordance with the suggestion, or rather in advance of it, the first thing they did was to lay down what we may call a standard method of accounting, or cost sheet. It is not in such great detail as that described by the gentleman from Michigan, but it has been very satisfactory for the purposes for which it was intended. A certain amount of expense is allowed to be deducted, freight and treatment, actual cost of mining, taxes, and actual cost of rehabilitation or repair of mines is allowed to be deducted from the gross proceeds. The net profit then is taxed upon the regular basis paid by all other property, on an average of 3%, 3½% or 4%, according to the county in which the property is situated. In addition to this, the mines are taxed upon all real and personal property, such as mills, machinery and improvements of whatever description on the surface or underground at the same rate as other property is taxed, and it has worked out—I won't say entirely satisfactory, but satisfactory to a large majority of the people of the state. It is quite true that it is not entirely satisfactory to every one. In the last legislature there happened to be a young man

from Kansas who had been 18 months in the state of Idaho, and as soon as he got into the state of Idaho, or shortly thereafter, he introduced a bill to raise the taxes of mines to ten times their net profits. This gentleman had never seen a mine; he had never worked a day or an hour underground, had never mined or milled or marketed a pound of ore in his life, but he introduced this bill. The bill was killed, of course, and the gentleman left the state. He had no interest in the state, and no interest in the mining business; and the agitation in favor of "soaking" the mining men with extraordinary assessments upon his property, no matter how earnestly he has worked for it, emanates largely from that kind of people who have nothing at stake and who do not realize what it means. I am speaking feelingly on this matter, as I have had a large experience as prospector, miner, mill man and operator and have lived for 25 or 30 odd years on the Pacific coast.

Now, the Committee has suggested here, on page 2: "The mineral contents and value of unexplored * * * cannot be obtained." It seems to me that is very clearly put. And in the quotation from the Wisconsin Tax Commission's report for 1910, it is stated: "It would be more logical and tend to better administration * * * without regard to the minerals * * *"

In regard to the assessment of non-producing mining claims, it seems to me they should not be assessed at all. They are only an expense to the owner; he doesn't get anything out of it. He keeps up the assessment work each year or he forfeits his title, and he puts in as much more as he can dig up. He has great faith in his ground, and every owner of a claim knows there is a bonanza in it and he puts all the money he can get into that claim. He puts that money into circulation and is employing labor and putting in his own time perhaps and taking a chance of getting something out of it, and as long as it produces nothing it should not be assessed.

A DELEGATE: Doesn't that refer to non-producing patented mining claims?

MR. DAY: It says, "non-producing mining claims." I believe the Committee's suggestion is well made, that such should not be taxed. I further believe—and this is based upon experience—that patented mineral ground should be taxed at its cost price, that is, for instance, at \$5 an acre, the price the government charges for non-producing mineral land, and that is certainly all it should bear, in fairness and justice, and I take it that all any of us wants is a fair deal. I believe the great American people are entirely fair and want to treat the mining industry fairly if we can only get our case before them.

Reference has been made by several of the gentlemen who have preceded me to the matter of the equity of a mine, that is, the amount estimated for taxation purposes, and the term "ad valorem" is used in this report. What is the meaning of the term "ad valorem"? Simply "according to value." And we then come down to analyzing the matter, and the question is presented as to what is the worth of a mine. Is it what you think it is worth, or what the public thinks it is worth, or what the people who buy and sell stock on an exchange think it is worth—the speculative value? None of these items constitute the value. The value of the mine is what you get out of it after it is worked out—the ultimate value. Then if we would be equitable in the matter we would agree to be charged on that value, and I think we are all willing to be taxed on that basis or should be willing to be so taxed. How are you going to arrive at it? Are you going to arrive at it, as our friend from Michigan has outlined, by taking the books of the mining company for seven years past and prognosticating the future from that? How would he apply that to this year when the price of copper in this state has dropped

to such a degree that a large number of mines throughout the West are closed down?

MR. ALLEN: Why, this year would average up with the preceding years.

MR. DAY: I understood you took seven years' prior production and based the next preceding year on that. Is that correct?

MR. ALLEN: No, I think you misunderstood me. Each year we make our forecast on the basis of the experience of the preceding five years. The mines are annually reappraised. Therefore this year, which is a very poor year for Michigan copper as well as iron, will be averaged in with four fair years, and the books will show that the average earning power of a ton of ore or a pound of copper is reduced; consequently, the valuation of the mines automatically goes down. If we have another bad year it will go down further. And then when we get some good years they will come up again. But by taking a five-year average we eliminate sharp fluctuations. That is the reason we take five years.

MR. DAY: I don't undertake to criticize the Michigan law or its operation for the reason that I haven't made a thorough study of it, but at the same time it has only been in operation four years, and I understand the conditions of iron and copper mining in Michigan are vastly different from those obtaining in the Western mines. I understand that they have very large conglomerate deposits and differ very much from anything we have in the Western country, and therefore I conceive their conditions are not applicable to us here in the West. Now, in regard to the net profit proposition, as I have said, we have found this almost entirely satisfactory—in fact I think it is entirely satisfactory to those people who belong in the state, who have their property interests there, which tie them to the state for a long term of years, and I think those are the people who are entitled to consideration in this matter, and, personally, I feel like heartily indorsing the report of the Committee, with the possible exception of the article on the last page: "(b) That if a tax upon the net proceeds only of mines of a state would be insufficient to produce the revenue necessary for the state's purposes, or to produce that necessary revenue would run the rate of taxation inordinately high, then a fair system of capitalizing the net proceeds at a figure which at the prevailing rate of taxation, would produce the required revenue, would be a proper system." In other words, they would capitalize the profits, as I take that to mean. It is only a suggestion by the Committee. It seems to me from a lifetime of experience that such capitalization of the profits of mines as a basis of taxation is not a sound proposition. Those of you who have put in your lives at the business will readily understand how the hazards of mining differ. There is the uncertainty as to values, the cost of materials, labor conditions, and a thousand and one things that go to make the business extraordinarily hazardous. Yesterday I was talking with one of the most distinguished members of this conference, Dr. Holmes of the Bureau of Mines, and he has lately criticized the mining companies very sharply, the metal-liferous mines, for the large number of fatalities and accidents underground, and it is suggested that at least half of the fatalities and three-fourths of the casualties were uncalled for or could have been prevented by proper methods. Now, that is certainly a very harsh criticism. As much as I respect Dr. Holmes—and I do respect him sincerely—I think he is making a very sweeping statement in that respect. I do not think the mines are so largely responsible for that as his statement would tend to show; but it only tends to illustrate one of the hazards of the business which a great many people who have not had wide contact with it do not understand. The business is judged as every other business on the top of the ground which can be seen up one side and down the other. A short time ago I was in a political convention in

our state and we were talking over this very matter of the taxation of mines. A resolution was before the house to go into the platform, a plank with reference to the taxation of mines as they are taxed. I opposed it, and in the course of the debate I came into conflict with a farmer, a very sincere man, and we argued the matter back and forth, and I finally said to him, "Would you be willing to pay taxes on your growing crop?" He said, "No." I said, "That seems to me akin to taxing the ore in the ground, and the ore that is out of sight;" and he said, "Well, I never thought of that;" and he quit right there; and I am going to quit right here, too.

I thank you for listening to me so long. (Applause.)

THE PRESIDENT: Gentlemen, we still have some time left before lunch hour for further discussion, and we will be very glad to hear from you fully and freely.

MR. J. H. MULHOLLAND: Mr. President and Gentlemen of the Congress: In presenting the views of a newcomer in the mining business, gathered from past experience, I would like to do so in a few words. I was born in Canada and lived most of my life there, and in Western Canada we have an adaptation of Henry George's single tax. I do not want to inject a discussion of single tax into this meeting, but we have had some experience up there, and I wish to call attention to this side issue, possibly, in the taxation of mines. We have come to the conclusion in Western Canada that it is not proper to fine a man for improving his property. That basis was not arrived at through any abstruse consideration of economics, but simply because we have large areas of land in Western Canada held by corporations that would not improve it but held it solely for speculative purposes. The Canadian Pacific Railway held some 25,000,000 acres of land in alternate sections. A farmer there would go in and homestead on the even numbered sections, while the odd numbered sections would be held by the Canadian Pacific. When a school district was to be formed, or anything of that sort, the taxes to support such institution were levied, and the man who had improved his farm, put a fine house on it, and a barn, and fenced it, stocked it, plowed it and brought it into cultivation was, under the old system, taxed for those improvements. He had enhanced the value of the four sections surrounding him belonging to the corporation, and with which nothing had been done; he had raised the value of the land in his community; and they decided that they were not going to fine this man for improving his property. I think the same thing will apply to mining. Why should a man fine himself or why should his state fine him for improving his property, putting a well on it, putting machinery into it, or developing it? I approve of taxes on the original value, if it can be arrived at in the same fashion as is done in Michigan, or, if that cannot be successfully done, on the basis of the net income from the property; but the machinery for producing that income, or the machinery which establishes the ad valorem value of the property, whichever system is used, is not a proper subject of taxation. I wish to commend this idea to your consideration. (Applause.)

THE PRESIDENT: You may be interested to know that one of our companies, operating in Oklahoma, at the first legislative session in that state seven years ago, was placed under the gross income tax, which was inaugurated by the first legislature, of 2% on the gross income of mines. We, of course, strenuously resisted it but it was fastened upon us, and some of the operators paid it. Our company took the position that we would not pay it, so at the succeeding legislative session some of the legislators came around and asked if we would consent to a gross revenue tax if it were reduced from 2% to 1½%. I took the position that if 2% was wrong 1½% or 1-10% was wrong, and the last information I had as I left home last Friday was of a decision by the United

States Supreme Court finding in our favor, that the tax was illegal and could not be enforced. A number of properties had paid the $\frac{1}{2}\%$ assessment, but our company had not. We felt that a tax on the net income might be proper, but we did not think a gross income tax was just, and our views have been vindicated by the United States Supreme Court.

Gentlemen, we still have some time left for further discussion of this question.

MR. ALLEN: Mr. President, pardon me for taking the floor again, but I want to make clear to some of the members and delegates who are not familiar with the application of the Michigan system that the valuation of a mine includes the value of the ore in stock as well as the value of the machinery, equipment, shaft house, rails, the power plant, and in fact the whole thing, because the cost of these is reflected in the cost sheet, the record of the whole operation, and the money which is put into power plants and power stations and machinery has all got to be returned by the income from the ore. We make the ton of ore in the ground the basis of all values.

THE PRESIDENT: I would like to ask one question there, Mr. Allen. Did you say that interest rate was not allowed?

MR. ALLEN: Yes.

THE PRESIDENT: I understood you to say interest was not allowed as an item of cost.

MR. ALLEN: It is not. Not interest on borrowed money. That is a capital account; it is not allowed in figuring the cost of mining for the reason that full allowance for return of investment or capital is made in figuring present worth of expected profits.

THE PRESIDENT: How would you treat bonds if the property is bonded? Is that borrowed money?

MR. ALLEN: Yes. That is not a proper item to enter into the cost sheet, from our point of view. But I was going to explain one condition that we have in Michigan which shows how the system works out in practice. There is a certain mining company that has a number of iron mines. They have spent a large sum of money in putting in a hydro-electric plant with distributaries. These distributaries extend through various assessment districts. We could have them pro rate the cost and upkeep of that power plant to their individual mines, and the value which is put upon the mines would in this case include the value of the power plant with its distributaries as a part of the main plant. But inasmuch as the power plant is assessable in two or more districts we have them enter the actual cost of the power delivered to the mines as a mining cost and the power plant is assessed as a separate concern. It is merely emphasizing a point which was brought to mind by the discussion of Mr. Mulholland, that under the Michigan system the basis of valuation is the ton of ore, because the ton of ore has got to pay all the bills; and all the cost of operation, whether it be for railroads or power plants or what not. It is of course understood that such equipment must be used exclusively as an agency of ore production.

MR. HEREFORD: I would like to ask a question. I cannot quite understand this system of ad valorem valuation. As I understand you, the ad valorem value of a mine is based by you upon its profit-producing qualities, is it not? What is the difference between that and assessing net profits? Net profits you can ascertain directly, can you not, from the books of the company at the end of the year? The profit-producing qualities of a mine you can only get at either by its past history in producing profits or by guess work. In other words, isn't your ad

valorem assessment after all nothing but an assessment upon the supposed value of the property calculated upon the assumption that it will earn so much money?

MR. ALLEN: Exactly.

MR. HEREFORD: Both are the same. You are assessing upon the profits of the property. Now, under the net profit plan you have the books to demonstrate thoroughly and fully what that profit is, but under your system it would be guesswork as to what the net profits may be. Now, pardon me for such a long question, but I am anxious to know.

MR. ALLEN: I am very glad that you brought that up. I find in the final paragraph of this report of the Committee that they foresee that in the practical application of the tax on net receipts they are going to be forced into a capitalization of profits. Now, the ad valorem system of mine taxation is, as you say, based upon the earning power of a ton of ore, and therefore is merely the present worth of expected dividends, nothing more nor less; but according to the Committee the necessary application of the system which is here proposed will force, under certain contingencies, a capitalization of profits, and then we get back to practically an ad valorem system, however, with all its vices and none of its virtues, for it provides no means for ascertaining the rate of capitalization, which must be governed only by the necessities of government, and no means for adjusting the burden in proportion either to the value of the properties or their relative abilities to pay the tax. And here is another thing we want to keep steadily in mind—that we in Michigan are forced to the ad valorem tax as a matter of equalization of tax burdens. Keep that right in mind. It is a matter not only of mine assessments and mine valuations but a matter of **tax equalization**. Under our present laws we cannot discuss mine taxation on any other basis, because we are prohibited from adopting any other method. This last paragraph is not very clear to me. Let me read it:

“(b) That if a tax upon the net proceeds only of mines of a state would be insufficient to produce the revenue necessary for the state's purposes, or to produce that necessary revenue would run the rate of taxation inordinately high, then a fair system of capitalizing the net proceeds at a figure which, at the prevailing rate of taxation, would produce the required revenue, would be a proper system.”

As I understand that, the government's needs must first be determined, and then somebody, some taxing authority, must arbitrarily determine how much of that burden has got to be borne by the mining property and how much of it has got to be borne by other properties. After ascertaining the rate of taxation on other property, they will then arbitrarily capitalize the mines at an amount which is sufficient, under the rate applied to other properties, to raise the amount of money desired. Gentlemen, is that the substitute offered by the Committee for the so-called non-scientific ad valorem taxation? Can you imagine anything more unscientific, more absurd, more bunglesome, more illogical than such a procedure as that? In other words, the taxing authority, if I understand this paragraph correctly, must determine arbitrarily how much money they are going to get out of the mines and then go out and get it, capitalizing the mines at a figure which will be necessary to produce the revenue which they desire at the rate of taxation applied to other property.

MR. HEREFORD: I haven't quite got the point I would like to understand. If I understand you, the ad valorem taxation is the taxation for the expected profits of the mine. Am I correct in that?

MR. ALLEN: Yes.

MR. HEREFORD: Why is not the taxation of the net value a taxation upon the absolute value of the profits of the mine? Why is the

ad valorem, which is based upon expectation, equal to that which is definitely determined and settled by the actual books showing the net profits? Now, after all, you seek the same object. The one proposition involved is the taxation upon the value of the mine. That is the one object, whether you call it ad valorem taxation or taxation of net proceeds. Now, under your theory you tax the net proceeds of the corporation. Under the one you come to the company and say, "Well, we expect you will make so much money," and under the other proposition the company goes to you and says, "Here are our books; here are our net profits; tax us upon them. We will give you the facts." And there is another thing that I think contains a little force in that connection. I think in Arizona we spend many dollars for every one we get out of the ground. It is not true in Michigan to the same extent. It has been said that it costs \$5 to \$10 of the money spent in the mines of the country to extract \$1 of profit. Now, under those circumstances we capitalize our optimism in this Sunny West—what we expect to do to a great deal larger extent than you do in Michigan. The result of that is, if you ask a man to sell his mine, "No." The chances are he will lose every dollar he has put into it, but he would not sell it for a million, therefore you couldn't get your ad valorem value of that mine in any way except by guesswork. How can that be subject to the actual determination of the value by the books of the company?

MR. ALLEN: I would answer you in this way: In the first place, the ad valorem system taxes nothing but that which has a demonstrable intrinsic value. I tried to make clear in the beginning that from the standpoint of the mining investor and the mine operator, the tax on net income is the more just and proper tax. Looking at it from that viewpoint alone I would favor the tax. I am not advocating the ad valorem tax as a substitute for the tax on net earnings except where it is demanded by the state laws, and I thought that I made myself clear that I was not advocating the Michigan system for Arizona. I don't know whether I would do it or not, because I don't know enough about Arizona to determine that matter. But I want to say again that every problem in mine taxation in our state is also a problem in tax equalization, and I should like to ask you, if I may, how, under your proposed tax, the tax proposed by this Committee, you are going to equalize the amount of taxes paid by the mines on the one hand and other property on the other hand. I do not know that in Arizona you need to equalize taxation, but we do need to do it in Michigan; and if we substitute for the ad valorem system the tax on net earnings we have no measure of the relative burdens of taxation on mine property and other property. Do I make myself clear?

MR. HEREFORD: Yes, sir. I will say frankly that I haven't given the subject of mine taxation sufficient consideration to justify me in doing anything more than asking questions; but since I have put myself in a position where I should answer, I will give you my view in regard to it. I think mines should be considered for the purposes of taxation as they are generally in law. You can sever the mineral contents of the land from the land itself and sell the title to each of them separately, and I think taxation should be based to some extent upon the value of the land as land, but that the taxation of a mine as a mine should be based upon its production of profits. The idea of taxation, I think, is to put the burden of taxation upon those who are able to carry it. I think it is a wise thing to so frame your laws that every man can have an opportunity to make a living; therefore I think that, so far as possible, taxation should be borne by those who are best able to stand it and in proper proportion. The question of taxation cannot be reduced to an exact science, but if you will accept it under the laws of reason that everywhere obtain in the mining world, I think we will get nearest to the ideal taxation. Now, it is a recognized fact that the surface and

other portions of lands which are available for minerals can be sold separately and apart from the mineral contents of the land, and I think land should be taxed—I should say, roughly, without having given it full thought—land as such should be taxed, wherever any title is held to it, separate and apart from the mineral it contains. But I think lands should be taxed very largely in proportion to the mineral in them regardless of whether or not there is a paying business, just the same as any other business. I think the land and the minerals should be taxed separately. I cannot see how there is any difference, for the purposes of taxation, between your ad valorem plan as you explain it and that of taxation of net profits. The taxation is based upon the earning capacity of the property, whatever it is, and I think the wisest way is to stick to the rules insofar as the title to the property is concerned. Mineral is one thing and land is another. Now, I don't know whether I have made myself clear. I didn't intend to give my own views, because I do not pretend to know enough about the subject to feel that they are of value to the Congress; but I am simply endeavoring to get some light on this matter.

MR. ALLEN: Now, just to carry your thought a little bit further: In Michigan, in the iron and copper regions, the business of mining overshadows all other industries. The mine values in some districts are better than 90% of all values. Now, in those communities the local activities, the local government, and the county government and the state government must be supported and must have an income whether the mines work or do not work. The people cannot stop living and we cannot stop educating the children. There are times in Michigan when every mine in some of the assessment districts is shut down. There are no profits, and there is no production. Under your system there would be no income for the government. We have got to take a little bit broader view, as I suggested in the beginning, of this discussion of mine taxation. The needs of the government must first be considered. And there is another point: The local communities, the township and the county, and the state, too, need a certain and steady source of income. Under your system the taxes each year would have to be levied on the income of the preceding year. If there was no income then, there are no taxes now.

MR. HEREFORD: You don't take into consideration the value of the land as such?

MR. ALLEN: I am speaking of the land in these mining communities. I will venture to say that the land values in your mining communities in Arizona are not very high; they don't look so to me. There is nothing there to tax but the mineral value. That is largely true in the mining regions of Northern Michigan. We have cut the timber off and there is little value there for timber any more, and there is very little value in the soil in some districts. I hate to say it, but some of the poorest of our soil is not any better than you see on your hills, despite the fact that we have more than 30 inches of rainfall. Some of it will not bring \$5 an acre and the best undeveloped stump land not more than \$15. Now, inasmuch as the minerals are practically the only value in some of these communities, if you take away the income which would be provided by a tax on net income of the mines, as you propose, then when the mines cease temporarily to operate the local communities are left high and dry, with no money. The schools must suspend, and there is no money to put into roads and other necessary public works.

MR. HEREFORD: Why should the mine which you say does not pay bear that tax when the land doesn't bear it? You say there is no money there unless you get it out of the mine, and the mine doesn't pay, and still you want to make the mine pay the tax.

MR. ALLEN: Now you are getting right to the point. You have clinched one of the arguments why the ad valorem system, practically considered, is a better system of taxation than your tax on net incomes right there in that statement, because there is value in those mines whether they are for the time being producing or not for causes which are familiar.

MR. HEREFORD: How do you know?

MR. ALLEN: Well, that is merely begging the question.

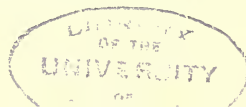
MR. HEREFORD: You are guessing.

MR. ALLEN: We are not guessing. Pardon me for speaking so abruptly. I get a little bit out of patience with that word "guessing." General suspension of operations in Michigan have never been due to the exhaustion of ore even in a single limited district. Such suspensions are due solely to bad market conditions. A mine holding reserves of ore is valuable even though it may for the time being be inoperative. We are not guessing; in making a reasonable forecast based upon past experience you use exactly the same kind of judgment, exactly the same processes of thought, that you use in the every day business life that you lead. There is nothing certain in mine taxation or any other kind of taxation, but to say that the appraiser is merely guessing at the value of mining property, in the light of the four years of experience we have had in Michigan, is a palpably absurd statement and unworthy of a place in a serious discussion. I want to say that when you get right down to the itemized cost sheets of the mining companies, most of your hazards, all of your guesses and practically everything else, with the exception of estimate of prospective ore, comes out in the wash, because you have got an actual measure of the productive power of the ton of ore and the average earning capacity of the properties. In merely extending your forecast for one year's valuation on the basis of the experience of the preceding five years you are doing no violence to conservative reasoning. The forecast usually comes pretty close to experience for the very reason that it is based on averages and we find as we go along from year to year that we come mighty close to "guessing," if you prefer the term, to what the conditions are going to be.

MR. J. C. GOODWIN: I understood you to say a while ago that your lands in Michigan are divided into two classes—mineral and non-mineral. In this country we have what we call prospects, which do not show any mineral to amount to anything. We patent those claims. Those claims, as I understand, we pay taxes on of so much without regard to any mineral contents in them, just so much on a claim. Now I understand in Michigan your mineral claims that do not produce anything are put into three classes, A, B and C, as you said a while ago, and that the land value is taxed on what might be underground as minerals just the same as our claims in this state.

MR. ALLEN: I am sorry to state that we do tax at a very nominal rate all lands, classified as mineral lands, which have prospects of producing ore. I think the time is at hand when we are going to quit doing that. The claim you speak of, if in Michigan, would not be taxed. The mineral value would be considered as zero, and it would pay no tax. There is a reference made to that matter by the Committee in quoting the Wisconsin Tax Commission, and I would like to ask the member of the Committee who is present if the words in parentheses are those of the Committee or of the Wisconsin Tax Commission: The quotation to which I refer is as follows: "It would be more logical and tend to better administration if the lands (non-producing mineral claims) were assessed without regard to minerals."

MR. CLARK: This matter came to me in the shape of telegrams and reports. It purports to give, however, the words of the Tax Commission.



MR. ALLEN: It occurred to me that the words in parentheses were the words of the Committee; and it also occurred to me that the ideas of the Wisconsin State Tax Commission were a little bit misrepresented here. We have no such term as "mining claim" in Wisconsin or in Michigan. In speaking of lands here the Wisconsin Tax Commission is doubtless talking about lands in the sense that I am talking about mineral lands, and not lands which are known to contain ore bodies but which are non-producing. For instance, if we have ten million tons of iron ore in a property it is taxed whether it is worked or not because it is valuable. It would be taxed in Wisconsin, and I do not expect ever to see the people of Wisconsin allow any such taxable asset to escape, because it is against the whole practice of the taxing authorities in Wisconsin, and I think that inasmuch as Wisconsin has only recently, within a year or two, adopted the Michigan system for the taxation of iron mines, it will hardly be fair to quote the Tax Commission in this connection as favoring the non-taxation of mineral lands which are known to contain ore bodies but which do not produce ore. They are speaking here of mineral lands which may be supposed to contain ore but which are not known to contain ore; in other words, the kind of thing that geologists and mining men would refer to as a "favorable prospect," or a "likely looking piece of land," or something of that sort.

MR. UTTER: Mr. President, I would like to ask the gentleman from Michigan two questions. We understand the spirit of the American citizen is for fair dealing for all parties. Does a farmer pay taxes on his land and on his improvements and also pay taxes on his net profits—say his apples and his alfalfa and his potatoes and so forth? Does the merchant who pays taxes on something less than the wholesale cost of his goods also pay a tax on his net profits, in Michigan or any other state? I think the same rule should apply to all taxable property.

MR. DERN: Mr. President, it seems to me that possibly such divergence of opinion as has been manifested here is due to the fact that we are considering two different sets of conditions. Possibly, as Mr. Allen has said, the Michigan system of mine assessments is the best one for Michigan conditions, but for various reasons, as stated by Mr. Day and others, it is not applicable to Western conditions. In the copper and iron mines of Michigan they frequently have immense available ore reserves, upon which a valuation can be placed. We have very few mines out West in which a great tonnage of ore is developed beforehand, and yet some of them are very profitable. I know of a mine that during the first half of a twelve months' period was paying good, healthy dividends, and during the second half it was levying good, healthy assessments. Now it is entirely possible that if this mine had been examined at the time specified by law for making the annual assessment, no reserves would have been found, and hence there would have been no value to assess. During the ensuing year a good body of ore might have been developed, on which the mine would make a lot of money. By the time the next assessment came around this ore body would have been worked out, there would be no value in sight to assess, and consequently the state would have been deprived of any revenue whatever on the ore extracted. This is by no means an uncommon occurrence in our lode mines out West.

I am reminded of an incident I heard the other day. A gentleman was developing a mine in the Tintic Mining District of Utah, and during a certain period the mine did not look very well, and he was rather discouraged. He went to a neighbor, who had been operating in the camp for many years, and said: "I have found that the ore bodies of Tintic are very irregular. What has been your experience?" The neighbor replied, "My experience has been much the same, only more so. Why, even with my mine, which is now paying big dividends, there have been

times when I have been worried to death, wondering where I would get ore enough to meet the pay roll. It used to keep me awake nights. Well, that condition would sometimes last for several months, and then it would suddenly get worse."

I apprehend the miners of Michigan do not have that condition to go up against. I think so far as the Western mines are concerned the idea of assessments on ore reserves is rather impracticable. There are a good many mines that are shipping ore to the smelters that never have any ore blocked out. I know of many mines in Utah that take out the ore as fast as they uncover it, and unless we are going to assess prospective values and guess at what might be found in the future—which would be a pretty risky method of taxation—I should think that possibly there would be less revenue to the state from an ad valorem tax than there would be from a tax upon net proceeds.

In Utah our law is, substantially, to tax all patented mining claims. Of course unpatented claims are not assessed, because they are not owned by the state, but by the Federal government. And a man who has to spend a hundred dollars a year in assessment work in order to hold his claim, and has to raise money enough to get it patented, would not be given a fair chance if he had to pay taxes as well as do the assessment work each year. But the patented mining claims are assessed at the rate of \$5 an acre. That is the price that has been paid to the government, and it is assumed that is a fair price. As a matter of fact this is very often more than the land is really worth for any purpose that it can be used for, but as men are willing to pay this price for it, the land is presumed to be worth it. All improvements are assessed under the general property tax at their fair value. And then the net proceeds of the mine are assessed also. I think in Utah that law is very generally approved. Sometimes we hear some criticism from the cow counties that the miners are not paying their share of the taxes, but I believe in general the law is very highly approved by all classes of citizens. I think the makers of our constitution showed considerable wisdom when they framed our system of assessing mines.

SECRETARY CALLBREATH: It seems to me it is so long after the noon hour that this discussion should be continued this afternoon.

THE PRESIDENT: This is such an interesting subject, and one which provokes such diversified argument that I think we had better have it out this afternoon.

Meeting adjourned.

TUESDAY, DECEMBER 8, 1914.

Afternoon Session.

THE PRESIDENT: Gentlemen, I am going to ask Dr. Phillips to take the chair this afternoon and preside at the meeting.

(Dr. William B. Phillips in the chair.)

CHAIRMAN PHILLIPS: The Secretary reminds us that the introduction of resolutions is the first order of business. Are there any resolutions to be introduced at this time? The custom is that the resolutions are to be introduced in writing, read to the convention and referred to the Resolutions Committee without debate, the debate to take place upon the report of the Resolutions Committee when that is finally made. Are there any resolutions ready at this time?

MR. DERN: Mr. Chairman, I have a resolution I would like to present.

SECRETARY CALLBREATH: This will be Resolution No. 1, introduced by George H. Dern of Utah, and it reads as follows:

Resolution No. 1, Introduced by George H. Dern of Utah.

Whereas, The welfare and prosperity of the States of Arizona, California, Colorado, Idaho, Michigan, Montana, Nevada, New Mexico and Utah, and of the Territory of Alaska, are to a very great extent dependent upon the mining industry, and especially upon the mining, milling and smelting of the ores of copper, and the mining of the coal necessary to render the handling of such copper ores possible; and

Whereas, The mines of the states and the territory above mentioned produced about 1,100,000,000 pounds of copper during the year 1913, valued, according to government reports, at about \$173,000,000, to which amount should be added the value of the gold and silver contained in said copper ores, worth at least \$27,000,000, making a total value of about \$200,000,000; and

Whereas, There are over 100,000 persons engaged directly in the mining, milling, smelting and transportation of copper ores, and in the mining of the coal used in connection with the production of said copper ores, and about 300,000 people directly dependent upon those so employed in said industry; and, in addition thereto, not less than 100,000 persons indirectly dependent upon the industry for their means of livelihood, making a total of more than 500,000 people who are affected by the curtailment of the output of copper; and

Whereas, On account of the war conditions now prevailing, the exportation of copper to European countries has been greatly restricted, which has already resulted in a curtailment of about 50% in the copper production of said states, and has caused hardship and suffering among those connected with the industry; and

Whereas, If this calamitous condition is prolonged, it will continue to disastrously affect the entire population of said states and territory, or at least 8,000,000 people, and throw out of employment many thousands of persons who are now dependent upon the said industries for their livelihood;

Now, Therefore, Be it unanimously resolved, by the American Mining Congress, in Seventeenth Annual Convention assembled at Phoenix, Arizona, that in order to prevent such great disaster to said states and to the Territory of Alaska, we earnestly appeal to the Government of the United States to use its great offices to keep open every available market for copper and give full protection to the producers of the metal in the shipment of same in neutral vessels to neutral ports.

Be It Further Resolved, That a copy of this resolution be transmitted by telegraph to the Secretary of State of the United States of America.

CHAIRMAN PHILLIPS: It will be referred without debate to the Committee on Resolutions. Are there any other resolutions to be submitted? If not, we will continue the discussion that was interrupted at the noon hour.

SECRETARY CALLBREATH: Mr. Chairman: A few days ago when it was agreed between Mr. Webb and Mr. Clark as to the form of this report I wrote to each of the other members of the committee suggesting that, having had a copy of the report as then prepared, I would like to have them state whether they would approve the report and allow their names to be used in connection with it, and asking them to wire me if they had any objection, assuming that if they had made no protest to the form of the report that they were practically in accord with its provisions.

MR. WALTER DOUGLAS: Mr. Chairman: In view of the fact that the discussion on the question of mine taxation has occupied perhaps a

longer time than had been anticipated, I move that future remarks on the subject be under the five minute rule.

(Motion seconded and carried unanimously.)

CHAIRMAN PHILLIPS: We will be pleased to hear from anyone on this subject under the five minute rule.

MR. DERN: Mr. President, as the matter is finally before the house, in line with the remarks I made this forenoon, I move that the last paragraph of the report of the Committee on Mine Taxation be stricken out and that the remainder of the report be adopted and declared by the American Mining Congress as being the proper basis for mine taxation in the Rocky Mountain and Pacific Coast mining states.

CHAIRMAN PHILLIPS: Does that relate to "b" on the fourth page?

MR. DERN: Yes.

(Further discussion called for.)

(Motion seconded and carried unanimously.)

CHAIRMAN PHILLIPS: The next order of business is the report on Mining Investments, Chairman, Hon. W. R. Allen of Butte, Montana.

SECRETARY CALLBREATH: I am very sorry to say that Mr. Allen is not here. He fully expected to be here, and we have had no word from him that he would not be here. The last word was about two weeks ago when he fully expected to be here. This is a very important subject, and I hardly know how we should treat it in the absence of the report, but it seems to me that we ought not to pass it by without some consideration of the means by which we may stimulate mining investments in the West through the treatment of this subject. I wish that we might have a discussion upon it in a general way, not only the means of protecting mining investors, but the means of securing mining investments, the means of bringing to the West the capital it needs for the development of its mines, the means when that capital is brought to us to see that it is directed into those channels where it may hope for success, and that it may be steered away from channels of fraud and deception which are commonly known to mining men, that the West may profit by the development of its enterprises, that the East and the whole world may profit by the increase in gold which is so necessary in our world commerce. It seems to me there is so much that can be worked out through an effort of this kind that we ought not to pass it by merely because the chairman of the committee has failed to make his report. I might say while I am on my feet that there is great agitation in this country as to how we may assume control of the trade of South America, which ought to come to this country. Heretofore, as most of you know, the South American trade has been largely controlled by European countries. It has been much more difficult for us to get from this country to South American ports, very much more difficult, than it was for European nations. Ordinarily, in order to get to those ports we have gone first to London and then back across the ocean to South America. The channels of trade heretofore have been altogether towards Europe from the South American countries. Now that trade relation has been, to a large extent, cut off. The South American people want to patronize us. We have the goods and the ability to sell them if they had the money to buy; but in connection with the European control of this trade they have furnished the credit which has enabled the South American people to do business. Our Eastern economists have talked much about the great opportunity which has been given the United States to reach after and control this trade, but they have stopped short at the point where they found that we were

unable to extend the credits which are necessary to handle that trade. The reason we cannot do it is because we haven't money enough in this country to take care of their business as well as our own. A certain amount of credit is necessary in all business transactions, but when the burden of credit upon gold is too great the structure falls and breaks to pieces. We have about reached the limit of credit that can be based upon our gold supply. In order to extend and care for the credits which are necessary to control South American trade we need an increase in our gold supply. It seems to me this Congress ought to be able to work out some plan by which we may better stimulate the production of gold in the West. If we do that we will serve the West, we will serve the country, and we will create a new channel for our manufacturing industries. Whenever one business prospers, in this country, every other business must, to an extent, prosper with it. I hope this Congress will discuss this subject to see whether or not we may arrive at some plan by which the production of gold in the Western states may be stimulated. (Applause.)

CHAIRMAN PHILLIPS: Is there a gold miner in this convention?

MR. HARRY J. BENTON, of Arizona: Mr. Chairman, I cannot understand why this convention has been called. It has simply been called, as I understand, not to help the poor miner, the gold producer, the prospector. I am not speaking for myself alone, but I know of a great many miners who have rich gold properties in our beautiful state of Arizona yet they have not the money to develop those properties. They have got ten, twelve, fifteen—in fact I personally have shipped ore that went \$59.39 to the ton to the Copper Queen smelter. After mining, came transportation on this ore, and the settlement I received left me \$14.19. Can a gold miner produce any gold in our beautiful state of Arizona, or any other state, with these exorbitant prices for railroad transportation and smelting, when they dock you for the silica, when they say you have not enough silica, or too much moisture, or not enough moisture, and one thing and another all the way through? If you are mining men here and have ever been 10 or 20 or 30 or 50 feet underground you understand many of these things. You cannot ship ore in the state of Arizona if it goes less than \$35 to \$40 a ton. Talk about your gold, you can't do a thing with it. I have 35 tons of ore blocked out in a mine. I have got 22 claims with over 3,000 feet of work done on my property. What can I do with the ore. Nothing. I cannot ship it to the smelter. I am broke. A mining man without capital cannot do it. I know when the United Verde mine could have been bought for \$300. Tom Brady could have bought your Copper Queen mine for \$7,000. You don't know these things, but I do. These are millionaire miners, but where is the poor miner going to get off? Where is your proposition? Here is another thing I want to illustrate to you gentlemen. Here is a prospector that goes out and looks for mining claims. He thinks they are worth while. He will go and put his good money in there and put down his prospect hole, and the next year he comes along and he has to put a hundred dollars on each one of four or five claims. Has he the money? I want to say to you gentlemen there is not a mining man here except millionaire miners, that ever did his legitimate assessment work every year according to what the law requires. The law says you have to put a hundred dollars on each claim. Show me a prospector here. And if he has ten claims, where will he dig up that thousand dollars a year to do that work. These are facts. I want to say to you gentlemen there is not a mining man in the state of Arizona that has forty-dollar rock who can ship that ore. You can't mill it unless you have the mill, and if you can't mill it you can't ship it, and your railroads and smelters take the whole of your profit, and when you get through you cannot buy a side of bacon or a sack of beans. These are my sentiments, gentlemen.

MR. BASS: Mr. Chairman, I don't know who the gentleman is who has just made that speech, but I will wager that he is a miner. I have had a little experience of that kind myself. Now, I am mining in the biggest hole in the earth. I didn't dig it myself; it is the Grand Canyon. But I know this, that by the time I get my ore on the top and get it over to the railroad I can't ship it, because I couldn't really get enough money out of it to pay the freight, and yet I have the highest grade ore in Coconino county, and asbestos, too—some of you may need it in the future if you have no use for it now. But I cannot ship it because the freight is too high. We can ship it down to the smelters here anywhere, almost, even to El Paso, for a very nominal rate, 90 cents a ton I believe they charge from the Grand Canyon over their road to the smelter in Yavapai county. I have a car of ore lying there, and when I got ready to ship it, of course, about the time I was ready copper went down, and it lays there yet. I know a man up there that shipped a carload of ore, and when he received his returns he didn't get enough to pay his expenses, and he paid his transportation and quit. Now, they take the smelter returns, and by the time they get through with the moisture and silica and all that stuff we are all in debt, so we quit. Why is it that they can ship that fluxing ore for 20 cents a ton and we have to pay \$7. I don't understand it. And there is where your trouble is. That is what stops your mining. You can't do it. There is no use in talking, you go in debt if you undertake it. Now, my ore carries well in gold. I have the original forms of copper away down in the Grand Canyon, and when I get it up there of course I can't get capital to help me. I am nothing but a prospector, but I have spent thousands of dollars, I have hundreds of tons on original fissure veins, in schist, and anybody that has ever mined copper knows that schist is the home of copper, and if we could go down there and develop it we would have another United Verde, and I have the pleasure of knowing all about the United Verde. But the great trouble is this: They take their smelter returns, and if they leave you enough to buy a sack of beans you are mighty lucky. Now, if I ship lumber over our road I can ship a car of good lumber for the same price I can ship culls. They don't charge any more to ship mahogany than they do for culls; but when it comes to ore it is a different proposition. There is where the trouble is. Now, I wanted to say something on this taxation question. My five minutes isn't up, is it?

CHAIRMAN PHILLIPS: We are not under the five-minute rule.

MR. BASS: And that is this—that if we expect to get capital to come into our mines in Arizona we must stop this bogus mining location, that is, the location of bogus mines—speculative locations—locating mines under the mineral laws and holding them for speculation. We have seven miles of it right up where I live, and if I should undertake to talk about getting some capital down in the Grand Canyon they would laugh at me, because they have been hornswoggled too much on bogus mining claims. If we could stop that we would do a good thing. Then when we get people to go down where God Almighty has opened up the earth we can show them something better than can be found in any other place in the state of Arizona, and I venture to say that I will show you that we have conditions existing there that will make it possible to get capital to come in there. You take the last map just issued by the Geological Survey of the United States; it shows it is there, but we can't get the capital. It is impossible. But if you could put taxation on some of these bogus claims so that they couldn't afford to hold them without development they would turn them loose and we would get people in there who would put money into real mines. They go back East and raise money on options, and the people come out and spend \$5,000 or \$6,000 and throw the matter up and go back and say, "You haven't any mines."

MR. UTTER: Mr. President, I think we have a remedy for the trouble stated by our Arizona brother in some of the matters that have been mentioned. If they will all remove to New Mexico I can assure them fair railroad rates and fair smelter charges; and then in New Mexico we can ship ores up to the value of \$50 a ton for a dollar a ton freight. We have a smelting charge of \$5 to \$6, and those are matters that are of vital importance. Some of those, and most of them I think make a graduated freight charge, and that is worthy of consideration, so that if our Arizona brothers will just step over the line their troubles will be over, I think. (Laughter and applause.)

MR. BASS: I would hate to have to move to New Mexico while I am in office. (Laughter.)

CHAIRMAN PHILLIPS: Any further discussion on this subject?

MR. BENTON: Mr. President and Gentlemen: Why is it when you ship a carload of cobblestones you pay so much freight on it, but if you ship a carload of gold rock the higher the gold contents the higher your freight rate will be? Does it cost any more to haul a carload of cobblestones than a carload of ore? A ton is a ton, whether it is cobblestones or gold rock; yet you ship a carload of gold rock, and what is the result? If it goes \$12 to the ton you are taxed maybe \$8 freight, and if it goes \$50 you are taxed \$14. Where does the difference come in? We are here in this convention to right these things, and I pray to God that you will stand up and do these things like men, like American citizens, and stand by the poor miner who produces. The man who takes these values out of the ground robs nobody; he goes out in the hills all by his lonesomeness; for days and weeks he is out in the hills by himself and his burro, and sometimes he has no burro, and he has to live on a sack of beans that he has packed. And finally he finds the precious metal that everybody loves and everybody grasps and wants. What does he get out of it? Not a dime. The other fellow comes in with the capital and says, "Oh, well, I will give you a hundred dollars." The poor fellow is nearly starved. What is he going to do? He takes that hundred dollars, and the other fellow makes millions out of it, and then they will tell you, "We are the mining men." My first experience in mines was in Leadville, Colorado, in 1878. I know the game all the way through, and I went broke and am broke today. I tell you right here, gentlemen, I am a stayer, though; I mortgaged my home, even the bed and the carpets that my dear wife walks on, and put it in my mines, because my wife has faith in them. Understand me? I am a stayer. I am a miner. (Applause.)

CHAIRMAN PHILLIPS: Any further discussion of this matter? If not, we will pass to the next paper, which is on Mining Development, by Mr. E. G. Reinert of Denver.

Mr. Reinert's paper will be found at page 193 of this report.

CHAIRMAN PHILLIPS: The next paper on the program is a paper by George Otis Smith, Director of the United States Geological Survey, entitled "Why Optimism."

SECRETARY CALLBREATH: I am in receipt of this letter in connection with Dr. Smith's paper:

Washington, November 28, 1914.

Mr. J. F. Callbreath, Board of Trade Building, Phoenix, Arizona:

My Dear Mr. Callbreath—I am very sorry to have to advise you that it will not be possible for me to attend the Phoenix Congress. I had had every expectation of being with you until after a final conference with Secretary Lane regarding the trip West which I had planned. He and I agreed that my absence from Washington at this time was out of

the question. Congress will be in session here during the time that I would be in the West and appointments have already been made for hearings before the Senate Public Lands Committee, the first of which falls on December 9. I have, however, been working evenings on the address which I expected to deliver and I take some little pleasure in inclosing it. Since my idea has been to strike a note that might be encouraging to some of the mining men in attendance on the Congress, I hope that possibly you can arrange to have it read as scheduled. In the event that you follow the plan of other years and print some of the papers for distribution at the Congress, I should be perfectly willing to have charged to me some of the expense in connection with my paper and I should appreciate receiving a hundred copies or so.

On page 4 you will find the omission of two numbers, the figures for which will not be available until after the first of the month when I will transmit them to you, by wire if necessary. The only actual omission is after the words "fourth week by." The second space may be filled by simply adding the figures for the four separate weeks of the month.

Please present my regrets at not being able to attend the Congress to any inquiring friends and with best wishes for the success of the Phoenix meeting, believe me.

Yours very cordially,

GEORGE OTIS SMITH, Director.

SECRETARY CALLBREATH: The paper is here, Mr. Chairman.

CHAIRMAN PHILLIPS: Gentlemen, is it your pleasure that this paper be read? The Secretary will please read the paper.

SECRETARY CALLBREATH: May we have a volunteer?

MR. F. L. RANSOME, Washington, D. C.: As I suppose I am the only member of the Geological Survey here, I shall be pleased to read the paper if it is desired.

Dr. Smith's paper will be found at page 217 of this report.

CHAIRMAN PHILLIPS: I understand the paper entitled "The Needs of the Zinc Mining Industry," by Mr. Otto Ruhl, is not here.

The Secretary has received some communications to be presented to the Congress.

New York, December 9, 1914.

J. F. Callbreath, Secretary American Mining Congress, Phoenix:

Greatly regret it will be impossible for me to attend Congress. Wishing you successful meeting and envying you the opportunity of spending a few days in a delightful climate among congenial friends, I am, with best wishes,

JOHN HAYS HAMMOND.

San Francisco, Cal., Dec. 1, 1914.

Mr. J. F. Callbreath, Jr., Secretary American Mining Congress, Denver, Colorado:

Dear Callbreath—I am very sorry indeed that it will be impossible for me to attend the meeting of the Congress this year. I have wanted very much to get down there and meet you and my other friends, and this desire is all the stronger since I see the very attractive program that has been laid out. I really feel though, that with the pressure of many things I cannot spare the time to make the trip. Please express my regrets to any friends who may inquire.

With best wishes for the meeting, I am,

Cordially yours,

H. FOSTER BAIN.

Denver, Colo., December 7, 1914.

American Mining Congress, Phoenix, Arizona:

Congratulations upon the completion of your seventeenth year of activity in behalf of mining. Please accept regrets for my inability to appear in person upon your program. Am sure your gathering will be a momentous one. Upon question of mining investments, there will be none to discuss if agents of the government are permitted to restrict the generous development of the West, thus shutting off the ambitions of both Eastern and Western citizens who desire to participate in the creation of Western industries upon the public lands. We are for constructive, not destructive conservation. Please smash the destroyers for us.

EDWARD G. REINERT.

Chicago, Ill., December 8, 1914.

James F. Callbreath, Phoenix:

Congratulations to the Congress. Mining men should be interested in establishing proper credit for their securities and some form of protection for the investor, that they could not be discriminated against on account of making such investments. Financiers know that prosperity depends on operators of mines and the soil.

J. F. ERISMAN.

New York, December 7, 1914.

J. F. Callbreath, care Mining Congress, Phoenix, Arizona:

At last moment find it impossible to attend convention. Unfinished business here prevents my leaving. I assure you it is a disappointment to me that I am not privileged to meet with you and take part in the affairs of the Congress, though I trust my absence may not detract in the least from the success of the meeting.

E. A. MONTGOMERY.

Columbus, Ohio, December 4, 1914.

Mr. J. F. Callbreath, Secretary the American Mining Congress, Denver, Colorado:

Dear Sir—I am very sorry to have to advise that it will be impossible for me to get away to attend the meeting of your honorable body. I had built up fond hopes that I would be in shape to attend this meeting, but owing to some difficulties that we have been contending with in some of the mining propositions here at home, I feel that I would be doing an injustice to the state by leaving at the present time.

Hoping that your meeting will be a success and that everything will go well with you and wishing you all the best of good luck, I am,

Very truly yours,

J. M. ROAN,

Chief Deputy and Safety Commissioner of Mines.

Bisbee, Ariz., December 4, 1914.

To the Delegates to the American Mining Congress, Greeting:

We, the directors of the Warren District Commercial Club, for and on behalf of the business men and residents of Bisbee and the Warren District, the greatest copper producing district in the Southwest, do extend to you a cordial invitation to visit Bisbee and the mines of the Warren Mining District during your stay in Arizona, and assure you of a hearty welcome here as well as an experience which must prove interesting and highly instructive.

We regret that it has been found impossible to have the railroads run a special excursion train here, but all who travel over the Rock Island and the El Paso & Southwestern roads have stop-over privileges and the railroads have stated that they will make a special party rate from Phoenix to Bisbee of a single fare plus one-third for the round trip to parties of 15 or more. Information relative to the formation of

such parties may be obtained from the delegates from this club, this city and Cochise county or by application to the local ticket agents in Phoenix.

It is our sincere hope that many of you will take advantage of this rate and the opportunity to visit this wonderfully mineralized district that produces more than one-third of the copper that is taken from the earth in Arizona as well as a large proportion of the gold, silver and lead.

Again assuring you of our desire to meet you here and of a cordial welcome when you arrive, we remain,

Yours very truly,

J. J. BOWEN,
M. NEWMAN,
M. J. CUNNINGHAM,
E. C. CAMPBELL,
E. W. BEDDOW,
GEO. L. DAVIDSON,
L. J. OVERLOCK,
JESSE YOAKUM,
H. B. HUNTER,
JOSEPH H. GRAY, Secretary,
Directors.

MR. GERALD SHERMAN: Mr. President, I have the honor of being a delegate from the Bisbee Board of Trade, and I wish to confirm their invitation and assure any of the members who might be able to come that they will be taken care of and that every possible effort will be made to show them what is there and to make their visit a pleasant one.

SECRETARY CALLBREATH: I have a communication from Mr. I. C. Thoreson, United States Surveyor General of Utah.

CHAIRMAN PHILLIPS: Is it the desire of the convention to hear the paper read?

(Reading called for.)

Mr. Thoreson's paper will be found at page 190 of this report.

MR. UTTER: Mr. President, I move that paper be filed and that the Committee on Resolutions may be asked to formulate a resolution or recommendation to be presented to this Congress and passed and possibly forwarded to our lawmakers or the authorities in Washington. This is in the interest of the poor miner.

(Motion seconded and carried unanimously.)

CHAIRMAN PHILLIPS: Gentlemen, I am sure that such of you as are able to make the trip to Bisbee will find it both profitable and pleasant, and it is to be hoped that some of you will be able to accept the very kind invitation issued by the people there. I wish my plans were such that I could accept it, because I remember some very pleasant days spent at Bisbee some years ago. Is there any further business to come before the convention this afternoon? We have reached the end of our program. If not, the Congress will now stand adjourned until 7:30 o'clock this evening.

WEDNESDAY, DECEMBER 9, 1914.

Morning Session, 9:30 O'clock A. M.

(President Scholz in the chair.)

THE PRESIDENT: Gentlemen, you will please come to order. The first thing on the program this morning will be the introduction of resolutions. Has the Committee on Resolutions anything to bring forward?

MR. REES H. BEDDOW: Mr. President and Gentlemen: On behalf of the Resolution Committee I beg to report Resolution No. 1, introduced by Mr. George Dern of Utah, with the recommendation of the committee that same be adopted.

I move that the same be adopted by the Congress.

(Motion seconded and carried unanimously.)

THE PRESIDENT: Are there any further resolutions to be introduced this morning?

MR. BEDDOW: Mr. President, I have a copy of a bill in my pocket that is pending before Congress, and it has been sent down here from New Mexico with a request that this Congress take some action upon it. I am not familiar with the matter referred to in this bill and don't want to assume any responsibility for its introduction before the Congress, but if it is thought proper I can bring it forward and it can be read and you may take such action as you deem proper.

THE PRESIDENT: Has the Resolutions Committee passed upon that bill?

MR. BEDDOW: The bill was presented to the committee yesterday, but they thought it would be the proper thing to bring it before the Congress.

THE PRESIDENT: If it meets with the approval of the delegates, I would suggest that the bill be read and be submitted to a vote of the Congress after it has been read.

The bill was read by the Secretary, and is as follows:

In the House of Representatives.—H. R. 18519.

August 25, 1914, Mr. Fergusson introduced the following bill, which was referred to the Committee on Public Lands and ordered to be printed:

A BILL to amend section 2324 of the Revised Statutes of the United States, relating to mining claims.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled: That the provisions of Section 2324 of the Revised Statutes of the United States, which require that on each claim located after the 10th day of May, 1872, and until patent has been issued therefor, not less than \$100 worth of labor shall be performed or improvements made during each year, be suspended for the year 1914, so that no mining claim which has been regularly located and recorded as required by the local laws and mining regulations shall be subject to forfeiture for nonperformance of the annual assessment for the year 1914; provided, that the claimant or claimants of any mining location, in order to secure the benefits of this act, shall cause to be recorded in the office where the location notice or certificate is filed on or before December 31, 1914, a notice that he or they in good faith intend to hold and work said claim; provided, however, that the provisions of this act shall not apply to the state of South Dakota.

Section 2. That this act shall take effect from and after its passage.

THE PRESIDENT: Gentlemen, you have heard the bill read; is there any discussion on the subject?

MR. BEDDOW: Mr. President, the only information I have got in regard to this bill is this—that the matter was first brought up before the State Republican Convention of New Mexico in August. Resolutions were passed at that convention requesting Congressman Fergusson

to introduce this bill in Congress, and as I said before, I know nothing about the merits of the bill, because I am not familiar with the conditions down there in New Mexico where it is supposed to benefit quite a number of claim holders. The statement made before the Democratic State Convention, to which it was also presented, was that there were a large number of claim holders in Grant and Sierra Counties, New Mexico, that had been working their claims for a number of years and that when they were not working their own claims they were working in other mines there for wages, and on account of the war, the men had been thrown out of work, and that they had no money to do their assessment work with. Now, that is the extent of my information in regard to this bill. You gentlemen probably know more about it than I do.

MR. DERN: I move that the matter be referred to the Committee on Resolutions.

(Motion seconded and carried unanimously.)

THE PRESIDENT: Are there any other resolutions to be presented to the Congress? If there are no more resolutions, we will proceed with the regular program; but before going ahead with the business session I would like to say to those delegates who came in after our first session that we are very cordially welcomed by the people of Phoenix; we had the former governor, the present governor, the mayor of the city and others to welcome us and to extend to us the hospitality of this town and state. The only reason we didn't have a king here is because under our constitution we haven't any, but even the policeman on the corner welcomed me this morning when I took my early walk. I don't think you appreciate how considerate these people are of us. You will notice the footlights on the stage are red so that you can not see the blush of the chairman when occasions arise to make him blush. I sat in the front row yesterday when Mr. Phillips occupied the chair, and a gentleman in the back asked him what he knew about mining, and Dr. Phillips admitted to himself that he didn't know much about it. I wondered why he didn't blush, but I now know the cause—the reflection from the footlights prevent your seeing the exact condition of the chairman behind this table.

When the local committee discovered that the chairman had cold feet they provided gas stoves, and many similar things, for which we are duly thankful. One of the things I have observed is that every time I leave this room (I am generally the last one out the door, because the distance is greatest) some resident who owns an automobile lingers and takes me to the hotel. I don't know what the purpose is, but I think he is afraid someone might sell me a slice of desert as a farm or fake mining claim. At any rate, I have been very well taken care of, and I am sure the delegates have all had the same experience. We are very grateful for the hospitalities extended to us.

Next on the program is the report of the Committee on Prevention of Mine Accidents, by Dr. W. R. Ingalls.

SECRETARY CALLBREATH: This is not in the form of a report, but in the form of a personal letter in response to my request for a report:

Report of Committee on Mine Accidents.

Hill Bldg., 10th Ave. at 36th St., New York, N. Y.

James F. Callbreath, Esq., Munsey Bldg., Washington, D. C.:

My Dear Mr. Callbreath—In response to your request for a statement respecting the work of the Committee on the Prevention of Mine Accidents, whereof I am chairman, which committee was originally appointed by the American Mining Congress, and later became a committee

of the United States Bureau of Mines, I have the permission of the Director of the Bureau to inform you as follows:

The committee, having made several preliminary reports, has always entertained the idea of preparing a final draft for a model law, profiting by the comments made upon its earlier work. As things progressed, however, it developed that the studies that were involved were beyond the means of the members of the committee unassisted. Consequently Dr. Joseph A. Holmes, Director U. S. Bureau of Mines, invited the committee to serve as a committee of the bureau. His invitation was welcomed and accepted. It was fully appreciated, moreover, that the United States Bureau of Mines was in the best position to see that whatever report might finally be made by the committee should be properly distributed among miners and mine operators.

Since April, 1911, up to this date a great deal of work has been done involving the co-operation of a great many persons. It was decided to extend the scope of the projected report beyond any previous ideas, and instead of submitting a mere draft for a mining law, to submit such a draft with copious annotations, giving the reasons for all opinions and decisions upon important matters and several chapters in explanation of important features of mine inspection and mining practice. The report will constitute a volume of about 300 pages. It is now in type, and as soon as possible after the revision of the proofs by the committee will be issued by the United States Bureau of Mines. It is hoped that this publication will occur about the end of this year.

Yours very truly,

W. R. INGALLS.

SECRETARY CALLBREATH: I might say, in this connection, that this committee is composed of some of the ablest engineers of the country. The committee was first appointed at the Denver convention in 1906. After about two years service in getting together the data necessary in doing its work the committee found, as Mr. Ingalls states in his communication, that the Mining Congress was not able to finance its work and the members of the committee did not feel like performing the work and paying the bills for such a work as they have since accomplished. At that time the Bureau of Mines came to the rescue and reappointed the committee as a committee of the Bureau of Mines, and the work has been carried on under that head since. This accounts for the fact that the chairman of the committee felt that he could not make a regular report except with the consent of the director of the Bureau of Mines. I am sure that when this report is made it will be found to be one of very great value, and I trust that those of you who are interested will make early application to the Bureau of Mines for a copy.

In this connection I may say something that I hope will be said more forcibly and completely hereafter, and that is that one of the most difficult things we have in our Washington work is to get enough money appropriated so that publications of this kind can be generously distributed. The Bureau of Mines is limited in its appropriation. Unfortunately, as Dr. Phillips' story illustrated yesterday, it looks like a case of "All for the white man and none for the nigger," in the division of appropriations. We ought to have a direct appropriation to the Bureau of Mines to cover its work, but instead of that we are forced to take our share of the appropriation made to the Interior Department, divided up as that department may decide, so that in the growing work of the Bureau of Mines we only get the same division as we would if the work had been thoroughly established. In other words, the older bureaus get in proportion to previous appropriations, holding the Bureau of Mines to its present status. I feel that in this connection it is proper for me to say that the Bureau of Mines has been engaged in the preparation of a codification of the mining laws of the United States. That

work is practically completed and in the hands of the printer. One of the things I have tried to do in Washington was to secure an appropriation by which that book might be published in sufficient quantities so that every mining man who needs that work might get it from the government. We have not succeeded in getting such an appropriation. We have succeeded in providing for its publication, its distribution to the libraries and the public institutions which are entitled to have it, and the book will be on sale at a very low price. The cost for printing the first 1,500 copies being about \$4,500, while the cost of 3,500 additional copies would be about \$1,500, but we were unable to get the order for the 5,000 copies for free distribution, and because we couldn't get that \$1,500 you gentlemen who need this work will have to buy it. It may be all right in some senses that you should buy it, because it will come to you at a very low cost from the public printer. The only point I make it that we need sufficient force back of us so that we can demand for the mining industry a special appropriation which will cover the actual need for the publication of such works as this. The Agricultural Department during the last 18 years has distributed free nine million copies of its Year Book to the farmers, but when it comes to publishing this codification of the mining laws for free distribution to miners, we cannot get \$1,500 to print 3,500 copies. The Agricultural Department can distribute 500,000 copies of a similar publication every year and the Bureau of Mines cannot distribute 3,500 copies one time only. This indicates very clearly the necessity for a better organization of mining men so that we do not have to say please, but we can say, "Gentlemen, we want this and we have got to have it." (Applause.)

THE PRESIDENT: Gentlemen, you have heard the report submitted by Dr. Ingalls. What is your pleasure about it?

MR. SWART: Do I understand this committee is still a committee of the American Mining Congress?

THE PRESIDENT: Yes.

MR. SWART: Then I move that this report be considered as a progress report and spread on the minutes.

SECRETARY CALLBREATH: May I suggest a vote of thanks to that committee for their efficient work?

(Motion seconded and carried unanimously.)

THE PRESIDENT: The next on the program is the report of the committee on revision of general land laws, by Mr. E. B. Kirby of St. Louis.

MR. CLARK: Mr. President and Gentlemen: As one of the members of the committee, I have a letter from Mr. Kirby addressed to me at the Chamber of Commerce in which he expresses regrets that he is unable to present the report and requesting me to do so. I will read the report:

Report of the Committee on Revision of the Mineral Land Laws to the American Mining Congress, December 9, 1914.

Since the last annual convention, the American Mining Congress has taken every opportunity to press for the creation by the Congress of the United States of a commission which shall revise and codify the mineral land laws of the United States.

Your committee takes pleasure in reporting that encouraging progress towards the desired end has been made at Washington. A bill (No. 4373), providing for the appointment of the commission desired, was introduced in the Senate by Senator Smoot and was approved by the Secretary of the Interior, as follows:

"Hon. T. J. Walsh, Chairman Committee on Mines and Mining, United States Senate:

"My Dear Senator—I am in receipt of your letter of February 9, 1914, transmitting for report a copy of S. 4373, a bill designed to provide for a commission to codify and suggest amendments to the general mining laws. The bill provides that the proposed code shall not deal with lands containing deposits of coal, oil, gas, phosphates or soluble potassium salts. Various recommendations and amendments to the general mining laws have been suggested by this department from time to time, and there seems to be more or less desire on the part of those connected with prospecting or mining for certain amendments to the law. The codification of all laws relating to the location, development and disposition of such mineral lands would also, in my opinion, be desirable. I believe that the investigations and findings by such a commission as is provided for in this bill would be of material value to Congress, and have therefore to recommend that the measure be enacted.

"Very truly yours,

FRANKLIN K. LANE."

The bill, after receiving some alterations, was favorably reported by the Committee on Mines and Mining, and was passed by the Senate on May 7th. Meanwhile, on April 1, 1914, Mr. Taylor of Colorado introduced a similar measure (Bill 15288) in the House of Representatives, which was likewise approved by the Secretary of the Interior and favorably reported back to the House by its Committee on Mines and Mining.

At that stage, Congress decided to restrict its legislative program for the remainder of the prolonged session to the trust bills, and your representatives were informed that no further progress with the revision bills would be possible until the next session. Later on, the administration measures relating to coal, oil, etc., were added to the legislative program and it was understood that the revision bill would be included with these. This expectation was not fulfilled and the House adjourned without action in the matter, so that nothing further can be done until the winter session.

Both the Senate and the House bills vary somewhat from the measure recommended by the American Mining Congress, which provided for a commission of five members who should be selected by the President for their recognized knowledge and experience in the mining industry (see copy attached). In the Senate bill, this was amended to create a commission of three members, two of whom should be lawyers and one a mining engineer. The House bill, on the other hand, permitted the commission to consist of five members, but provided that they should serve without compensation.

While these alterations were unsatisfactory, it is believed that the best opportunity to make further efforts for their correction will be presented after the passage of the House bill and when it meets the Senate bill in conference.

Your committee believes that the most important qualification of the commission should be its ability to command the confidence of the mining communities and that this end can be best attained by having at least five members and leaving the President free in making the selections. Moreover, the members should be properly paid so that the appointments may not be restricted to men of wealth and in order that the business may be undertaken in a serious way, befitting its importance. The House bill will shut out from any possibility of selection the vast majority of mining men as it restricts the personnel of the commission to those who have the rare combination of a knowledge of the subject, a desire to work for it, and who, at the same time, possess such incomes and freedom from business duties that they can leave their own affairs for six months of arduous labor, and bear the serious expenditures which cannot be included in government accounts.

At the proper time, further efforts will be made to have these difficulties considered by those who are in charge of the bills, but in any case, it is probable that a revision bill will be passed at the next session.

In the meantime, public interest is growing and the forces massing back of the revision movement are steadily increasing. In the American Institute of Mining Engineers and the Mining and Metallurgical Society of America, no other matter of public policy has been commanding such interest as this. In both organizations, the sentiment in favor of a general revision is overwhelming and each one has gone as far as it could in approving and aiding the movement. The American Institute of Mining Engineers has been specially restricted in its support by provisions in its constitution which bar it from taking up public questions and an effort is now being made to have its sphere of activity enlarged.

In the meantime, the American Mining Congress remains as the only general organization of the great mining industry which is in a position to freely voice its wishes and act for its interests in any direction. There has certainly never been a time when these interests have needed co-operation and intelligent direction so much as they do now, and mining men cannot afford to have the activities of the Congress weakened through any lack of financial support.

Practical experience has shown that to be effective, the recommendation of the Congress upon any matter must be properly presented at Washington, and this requires steady, persistent work by some one who can stay there. At present, there is no way of securing this until the Secretary of the American Mining Congress is given the means with which to carry on his work in the proper way. This is absolutely necessary to supplement the efforts of your various committees who can only act through correspondence and the occasional visits of their members.

The mining industry cannot hope that any of the afflictions from which it is suffering will disappear by chance. The only help in sight is self help, the labor and money contributed by mining men to the work of the American Mining Congress.

(Signed) EDMUND B. KIRBY, Chairman.

Committee:

E. B. Kirby, St. Louis, Mo., Chairman.
Alaska—L. V. Ray, Seward.
Arizona—Will L. Clark, Jerome.
California—E. H. Benjamin, San Francisco.
Colorado—Victor C. Alderson, Denver.
District of Columbia—Hennen Jennings, Washington.
Idaho—J. R. Richards, Boise.
Montana—William Scallon, Helena.
Minnesota—Horace V. Winchell, Minneapolis.
Missouri—E. B. Kirby, St. Louis.
Nevada—D. C. McDonald, Ely.
New Mexico—C. T. Brown, Socorro.
Oregon—H. H. Schwartz, Portland.
Texas—Isadore Broman, Austin.
Utah—W. H. King, Salt Lake.
Washington—L. K. Armstrong, Spokane.
Wyoming—Edwin Hall, Lusk.

Appendix.

Preliminary Draft Suggested for a Joint Resolution of the Senate and House.

That Congress shall undertake a general revision of the laws relating to mineral bearing lands and mineral rights within the United States and Alaska, and such revision shall cover mineral deposits of every kind except those of coal, oil, phosphates and salines, which are set aside as the subjects of other and special legislation.

In view of the technical nature of the problems presented by the work it is desired to secure first the results of the knowledge and experience which exists among those who are engaged in the mining industry.

To this end the President shall, within 60 days hereafter, appoint a commission of five members who shall be selected for their recognized knowledge and experience in the mining industry.

The commission shall consider the mining laws of this and other countries and shall hold public hearings in the principal mining centers of the Western States and Alaska, giving full opportunity for the expression of public opinion concerning the problems before it. Its recommendations shall be presented in the form of a fully drafted mining code.

Within six months after the appointment of the commission its report shall be delivered to the President, who shall within 30 days thereafter transmit it to Congress with his further recommendation if there be any.

Members of the commission shall receive per diem with expenses and shall engage such clerical assistance as may be necessary for the work.

(Clause providing for the necessary appropriation.)

Resolution above introduced by Will L. Clark.

(Applause.)

THE PRESIDENT: Gentlemen, you have heard the report of the Committee on Revision of General Land Laws. What is your pleasure about the report? Is there any discussion?

MR. CLARK: Mr. Chairman, in connection with the report we have prepared a resolution which I will also read:

RESOLUTION NO. 2.

(Introduced by the Committee on Revision of Mineral Land Laws.)

Be It Resolved, By the American Mining Congress, in regular convention assembled at Phoenix, Arizona,

That Congress shall be urged to provide for a general revision of the laws relating to mineral bearing lands and mineral rights within the United States and Alaska, and such revision shall cover mineral deposits of every kind except those of coal, oil, phosphates and salines, which are set aside as the subjects of other and special legislation.

In view of the technical nature of the problems presented by the work it is desired to secure first the results of the knowledge and experience which exist among those who are engaged in the mining industry.

To this end it is urged that the President shall, within 60 days hereafter, appoint a commission of five members who shall be selected for their recognized knowledge and experience in the mining industry.

The commission shall consider the mining laws of this and other countries, and shall hold public hearings in the principal mining centers

of the Western States and Alaska, giving full opportunity for the expression of public opinion concerning the problems before it. Its recommendation shall be presented in the form of a fully drafted mining code.

Within six months after the appointment of the commission its report shall be delivered to the President, who shall within 30 days thereafter transmit it to Congress with his further recommendations if there be any.

Members of the commission shall receive per diem with expenses and shall engage such clerical assistance as may be necessary for the work.

(Clause providing for the necessary appropriation.)

MR. CLARK: I have left blank the clause to be provided for the necessary appropriation.

Regarding this resolution, as set forth by the report, a good deal of progress has been made, and the bills now before Congress should be amended in conference, so the committee thinks, to include, as stated, five members instead of three as provided by the Senate bill, and that these members should be paid a per diem and expenses in order that selection may be freely made from those who should appear to be best fitted for the work without involving personal labor and expenses to appointees. Now, I will not go into the subject of the great need of revision of the mineral land laws at any length, because that has been discussed, and I believe every Western mining man and nearly every one engaged in the industry, understand the very pressing need of this work. It is one of those things which have been talked about so frequently that revision should have been granted by the Congress of the United States immediately that this was presented to them in proper form, yet men have worked on this proposition for over twenty years. Some of the most eminent men in the mining industry in the United States have devoted much time and labor to it. Dr. Raymond, for instance, told me he had repeatedly formulated resolutions on the subject; and following that along, I talked, myself, once with five United States senators, happening to catch them together, about the matter, and they said, "Oh, it is a monumental work." I told them I thoroughly disagreed with that view, and they could select a commission that could easily do the work and do it well. I said a year, and they seemed to be amazed; yet this provides for six months, and it can easily be done, I believe, in six months. For a while there was a difficulty about it, during the acute stage of the discussion, concerning extra-lateral rights, but now there is a general agreement that they can be done away with. Now, just one phase of the subject, the question of the discovery of oil, or even of mineral as an absolute necessary requirement under the present laws. There is no reason why you should have to discover it. The policy of this government has always been to invite the taking up of the public lands and to sell them at very reasonable prices, and when you have gone through all this rigmarole of making a discovery—if you have a claim that is any good at all you may have a few lawsuits during the intricacies of patenting and things of that kind, and the government finally sells you that land at \$5 an acre. Now I don't think there would be any difficulty if they classified it as worth more than that, the same as the coal lands, say \$20 an acre, within reasonable transportation or water haul, and with less amounts to those prospectors who are far in the mountains and who would necessarily have to wait a long time. But in any event it is so simple that if the Congress of the United States would be properly approached by this great industry we should have first the classification of these lands, and following that it is very easy to provide simple methods of having these lands appropriated by those who want to develop them. As has been well said here before, it should be just the same as taking up any other land, but it has been

hedged about by all these troubles, some of which the miners are responsible for themselves, but at the same time it is now at a point where this revision should be pushed. The other striking reason why this has become a very great necessity to the West is the question we have talked of of how should the mining industry of the West be promoted, how should it be aided? One of the greatest aids you could possibly give it is this revision of the general land laws. Why? It is well known that if a mining proposition is presented to investors one of the very first and strongest objections that they will make to going into such an investment is the probability of litigation. That old subject comes right up. Everyone has heard, "Well, if you find anything you will get into litigation." That condition of affairs could be ended, and it could easily be ended by this Congress if there is just a little more work done. We have got far enough along now where it is practically, I should say, only a question of a little further effort; and I want to say a word for Mr. Kirby, our chairman, who has personally gone to Washington a number of times and worked on this matter and has devoted his time and money to this very freely, and other members have done so. Professor Winchell, also of the committee, has performed a deal of work in various ways and by discussion in the technical papers. I think now if every one of the delegates, in addition to the formal resolution—a resolution may get pigeonholed, but if every one of the delegates to this Congress, whether they have personal acquaintance or not with their representatives in Congress, will write a letter once a month asking what has been done in regard to this revision of the general land laws, I am sure you will secure the appointment of a committee to revise them at this session of the Congress of the United States. (Applause.)

THE PRESIDENT: Gentlemen, you have heard the most instructive report of the Committee on the Revision of the General Land Laws, and the resolution. What is your pleasure with the report, in the first place? I suggest we consider them separately.

MR. F. L. SIZER: I move the adoption of the report as presented by Mr. Clark and thanks to the committee for their work; that the report of the Committee on the Revision of the General Land Laws, and gentlemen who framed it, and that the committee be continued.

THE PRESIDENT: Is there any further discussion of the matter? (Motion seconded and carried unanimously.)

THE PRESIDENT: I would suggest that the resolution be referred to the Resolutions Committee.

We will be obliged to deviate from our program, because Dr. Talmage is going away, and I will call on him to present his address on the proper advertising of mining opportunities. I may say that advertising is one of the great American games, and I have learned some lessons in these arid countries. On one of my early trips, in approaching a town after a long cross-country drive, I saw a big sign, "First Chance," and upon getting near I found there was a saloon. As I left the town I noticed a sign on the other side of the building reading "Last Chance." They have us both coming and going. Mr. Talmage's subject is one of more serious character, and I am sure we have much to learn from him.

Dr. Talmage's paper will be found at page 172 of this report.

THE PRESIDENT: Gentlemen, we have certainly enjoyed Dr. Talmage's able address, and will now proceed to another address, which promises to be equally instructive and interesting, by Mr. W. G. Swart, on "The First Move."

Mr. Swart's paper will be found at page 144 of this report.

MR. SIZER: Mr. Chairman, I would like to ask Mr. Swart to supplement his very interesting paper by a private statement of how the Colorado system of assisting prospectors has worked out.

MR. SWART: I am fortunate enough, or unfortunate enough, as you may look at it, to be the chairman of the Mining Committee of the Denver Chamber of Commerce. You probably know more or less of the movement which was started up there two years ago. One of our newspapers started something out of a clear sky. They sent around to a number of prominent mining operators and found out they were of the opinion that something was wrong with mining, and that it was the lack of prospecting which was at the base of the trouble, so the newspaper asked if they would not contribute to a fund to help prospecting. In two days this newspaper raised \$11,000 among a few of the mining men of Colorado. They were all glad to contribute, and the newspaper turned the fund over to the Denver Chamber of Commerce to handle, which body appointed a special committee for that one purpose and the committee labored all through the summer and into the late fall. That fund put 84 prospectors in the field. As a rule, they were put out in pairs. When the movement was started it hadn't been fully considered from a legal standpoint. The fact was the Denver Chamber of Commerce was not organized for profit, and therefore it could not participate. Nevertheless the prospectors were sent out under a written agreement that they should have half of whatever they found and the Denver Chamber of Commerce the other half through trustees who acted for the Denver Chamber of Commerce. Those prospectors went out in the field and spent the summer. There were, I think, eight finds—about 10%. Several engineers went out to see them, reporting that out of the eight there were two which showed some promise of becoming mines. Then came up this important point, that there is a marked distinction between prospecting and developing. No provision whatever had been made for the development of these prospects. Now, what was the use of sending the prospectors out to simply uncover something unless you were going on and turn the thing into a mine? We found ourselves facing a situation that simply could not be handled by our organization, because any time you start a game of that sort on the sole basis of benefitting the state of Colorado or the state of Arizona, and doing something for the public good, you are going to fail. There is just one thing on which to base mining, and that is the making of money. So we were forced to abandon this method, which, had it been organized for purely business purposes, would have worked out all right, and I say that it would have worked out all right because since that time some of us have taken the idea over and it is this little organization I have mentioned where ten engineers joined hands and efforts which really is the successor of that prospecting enterprise. The thing as originally planned was dropped; it failed; there was no development money raised and nothing real was accomplished. The prospects which had been found were turned over to the prospectors with the compliments of the Denver Chamber of Commerce. What they have done with them since I do not know. But as the successor to that movement, the men who really believed, the men who knew, the engineers, the mining men themselves, organized this little company which I have just mentioned. The ten of them got together and their undertaking has been a success. I am sorry I can't give you all the details of it. I will be glad to do so privately, but it is a close corporation and has its own affairs and secrets, of which I do not feel at liberty to speak freely. But I am willing to stand here and say that the enterprise has been an unqualified success, and can be made a success in any community when taken up in a similar way. If the trained mining men will get together, will keep their heads and will organize the sentiment of their community behind them, and will then direct it, you won't need to worry about the mining industry; it will take care of itself.

THE PRESIDENT: Gentlemen, I am sure I voice the sentiment of this meeting when I express the thanks of the Congress to Mr. Swart for his able paper, which so clearly emphasizes to my mind the analogy between mining and farming. As I came up the Salt River valley day before yesterday I was impressed with the greatness of the desert, and one of my companions who had never been West asked me, "What is this land good for?" I told him to withhold his opinion—which was not very favorable—until we came nearer this town, having heard of the great water project which you have here, and he was very willing to agree with me that nothing more was wanted than a little water to convert a desert into a wonderful oasis. I think the prospector and his field are very similar. He has the desert before him, and if he can only get a little water he will soon develop wonderful mines.

The next number on the program is an address to be delivered by Mr. Walter Douglas. I may say that on my first trip West some fifteen years ago, after I crossed the Missouri river, and as we approached El Paso, in the smoking car of the Pullman I overheard two or three men talking something about a copper queen, and having only recently come to this country, being one of those poor Germans who left his home country to look for greater opportunities, I had my ear to the windward looking for an heiress, and the words "copper queen" appealed to me, and I wondered where she lived. (Laughter.) I didn't have much hope of meeting her, because I hadn't been mixing with royalty; I had been a miner all my life, and the chances were pretty slim. But much to my disappointment I found that the copper queen was not a dusky lady but a copper mine. It was my pleasure afterwards to meet a gentleman connected with this mine and who is well known to you, and I feel that it would not be improper for me to bestow upon him the name of the Copper Prince. I have the pleasure of introducing to you Mr. Walter Douglas, who is going to read a paper on "Legislation and the Mining Industry in Arizona." I may say that we have invited the legislators of this state to attend this meeting, and I hope they are here and will profit by what Mr. Douglas has to say. (Applause.)

MR. WALTER DOUGLAS: Mr. President and Members of the American Mining Congress: It is very embarrassing for me to get up and speak after an introduction of that kind. In connection with the Copper Queen in the gossip of a smoking room, I think the most amusing thing was the member of our company who was coming out on the Rock Island line and he heard some tourists who were going out to Arizona discussing matters pertaining to the West. At that time the El Paso & Southwestern had for its trademark the head of an Indian surrounded by a circle, and on it the words "Copper Route," and one of the tourists was explaining how this Indian had discovered the Copper Queen mine and had developed it and that his name was Dr. Douglas. (Laughter.)

Before reading this very brief paper which I have prepared on recent legislation affecting the Arizona mining industry, it might be proper for me to state that no reference whatever has been made to the initiative and referendum measures which were passed at the last election, and their effect and constitutionality can only be predicated at this time.

Mr. Douglas' paper will be found at page 140 of this report.

THE PRESIDENT: I am sure we have learned much from Mr. Douglas' valuable paper, and thank him for the able presentation thereof.

Several years ago when I attended a meeting of the Congress, I was late one day, just as most of you gentlemen were this morning, but the chairman was not as considerate as I have been. He had started the proceedings, and a tall Westerner had the floor, and in a very vigorous way delivered an address which come home pretty close to all those present.

I have reference to the senator of your neighboring state, Hon. John F. Shafroth. He is unable to be here today because another Congress, the one at Washington, has called on his time, but he has given us a paper which I am going to ask the Secretary to read, on "The Administration's Public Lands Policy."

SECRETARY CALLBREATH: I would suggest, in view of the fact that that paper has been printed and distributed among the members, that we dispense with the reading of both that and the following paper and that they be printed in the proceedings.

(Motion seconded and carried unanimously.)

Senator Shafroth's address will be found at page 207 of the report.

The next and last item on the program this morning is "Conservation, State or National?" by Dr. William B. Phillips of Austin, Texas. Dr. Phillips doesn't need any further introduction.

DR. PHILLIPS: Have you that paper, Mr. Secretary?

SECRETARY CALLBREATH: It doesn't seem to be here.

DR. PHILLIPS: Gentlemen, that is a very important paper.

THE PRESIDENT: How do we know?

DR. PHILLIPS: Because I wrote it. I have no copy of it here; I have it at the hotel; and the Secretary has no copy of it. I am going to ask you to allow me to read that paper this afternoon, and will add that it is going to be a very good paper.

(Cries of "Go on.")

DR. PHILLIPS: It was on the subject of conservation, whether there should be state or national control of this important matter, and in that paper I have endeavored to point out some of the fundamental principles governing the so-called conservation movement in this country. I do not see, myself, how we can have any considerable conservation of our resources without a very considerable degree of development. I do not see how we can conserve a mining industry that has not already been developed; nor do I see how we can conserve anything without sufficiently regulated authority. Whether that authority is to be state or national will largely depend on circumstances over which I think we have very little control. It would appear that we for many years in this country have drifted into a condition which the early founders of this republic neither contemplated nor provided for. We have seen in recent years an attempt on the part of one of the states to regulate the minimum price at which oil shall be sold within that state. If the state has a right to do that it has a right to fix the minimum price at which any product can be sold within that state. The power to regulate one resource is the power to regulate all. If I am forbidden to sell my oil at a minimum price I can also be forbidden to sell my lead or copper or zinc or tin or gypsum or salt or cement or anything that I may produce. The same principle applies to all as applies to one. A sister state, and the one to which I refer, attempted two or three years ago to prevent the exportation of natural gas from without its borders, claiming that its natural resources were to that extent being depleted and that therefore it had a right to protect itself. It endeavored to prevent the transfer of its natural gas supplies to a neighboring state under the plea that such transfer would deplete its own resources and it would thereby be to some extent impoverished. It didn't take long for the United States

Supreme Court to dispose of this case when it came up. It held that no state had a right to pass laws forbidding the exportation of its mineral products to a neighboring state. It would appear ridiculous to most of us that such a case could ever have gone as far as the United States Supreme Court. It has happened within very recent time and is happening today that an important oil producing state in the Union is seeking, through a commission, to regulate the oil business, not only to fix the maximum and minimum price but to some extent also to limit production. We have seen that same principle cropping out in some of the large cotton producing states by which it was sought, under the guise of law, to limit the cotton acreage and to make it an offense punishable by fine and imprisonment for any man to plant beyond a certain number of acres of cotton during the year 1915. Such legislation is highly socialistic in its tendency and can be charged neither to the old line Democratic party nor to the old line Republican party. If we are ready in this country, gentlemen, for the government to take control of the conservation of our resources we must at the same time be ready for it to control the means by which those resources are brought into use. If we would conserve our supplies of oil or natural gas or coal or copper or whatever it may be, it can only be through the administration of law either of state or of national origin. If we are to say that our coal resources in some parts of this country are being depleted too rapidly we can only remedy that defect by taking charge of that production either through the state or national administration. If we say that our oil supplies in Oklahoma or Texas or California or wherever it may be are being depleted too rapidly, if there is too swift an exhaustion of our supplies of natural gas, we can only control that matter through governmental agency. In our own state we have passed a law regulating the waste of gas wells. If you will bear with me for one moment I will relate a circumstance which has taken place in that state within the last three weeks seven miles from the city of Corpus Christi, which is on the Gulf, and just across an arm of the bay. Three weeks ago an enormous gas well was brought in. The pressure was sufficient to send a column of mud and water and gas one hundred and fifty feet high, and it was visible during the day time for a distance of nearly ten miles. It was absolutely impossible to control that well. The estimated flow was fifty million feet a day. That well inside of ten days choked itself at the bottom and it is now a mud volcano. The derrick, machinery, and so forth, fell into the hole, and it is spouting mud and water and all the other devilment it can collect for a depth of a thousand feet. (Laughter.) Its owners are liable under the law for wastage of gas. They would be glad to pay any man \$50,000 this minute to go there and stop that flow of gas. Three old wells in the immediate vicinity that haven't yielded oil or gas have begun to spout. The bottom of the sea nearby—the well is immediately on the coast—is bubbling and heaving every day with the amount of pressure of that gas seeking to relieve itself from underneath. We had the same experience in the great gas fields of Caddo in Louisiana, where gas not only ran for several years uncontrolled but finally caught fire, and I have myself seen that fire twenty-five miles away at night, so tremendous was it. The state of Louisiana finally served notice on the owners of the well that that flow of gas had to be stopped, and the question arose how to do it. The state, in effect, served notice upon them that if it was not stopped, by virtue of the right of eminent domain it would itself take charge of that property and stop the flow of gas and charge the expense against the property; whereupon the owners of the well got busy, as the saying is, and finally controlled it, at a very high expense, and that gas is now being piped as far north as Hot Springs and Little Rock in Arkansas, and is finally, I believe, destined to reach St. Louis, a distance of about six hundred and fifty miles.

We are facing, I believe, gentlemen, a very important turn of the

road in industrial development in this country. It has come so insidiously as to escape the notice even of very observing men, and that is the tendency to apply to the government every time anything goes wrong with business. If things are wrong in the oil business we go to the legislature for relief. If anything is wrong in the gas business we run to the legislature or to the national government for relief. You are all more or less familiar with the operations of the Interstate Commerce Commission, by which, through a central agency, we are now controlling inland freight rates. There are forty-seven or forty-eight states in this Union enacting laws bearing more or less upon the mining industry, and in our own state, which is not remarkable for the value of its mineral products—we get only about thirty million a year there—we make up in legislation what we lack in production. (Laughter.) If you will pardon me a few moments: The state of Texas has had its own land office—and this matter bears directly upon the subject which I am attempting to discuss in a brief way—for seventy-five years. It was opened in 1838 and they had at that time some seventy-nine million acres of land to dispose of. You know Texas ran as far north as Cheyenne, Wyoming, and took in a large portion of Colorado and New Mexico. The New Mexico portion was sold to the national government in 1851 for \$10,000,000. We were not very prudent in that day in our country, because the area sold has since proved itself to be worth a good deal more than \$10,000,000. Since 1838, therefore, the state of Texas has controlled its own land. It has an enormous domain which was set aside for the benefit of the public school fund, which now reaches very nearly to the value of \$70,000,000. Nearly all of that land has been sold. I think there now remains only about one million six hundred thousand acres of unsold public land in Texas. When I went there fourteen years ago there were twenty-two million acres unsold, but all of that domain now has been disposed of with the exception, we will say, of a million and a half acres. Not a foot of that land has been sold without a reservation of mineral right. You cannot acquire any of the public domain in that state, nor has it been possible for many years to do so, without a reservation of the minerals that may be found on or within that land. The last legislature marked a radical departure from the preceding methods, and it declared it to be no longer the policy of the state to part with the mineral rights in its public lands. You cannot now buy in that state any mineral right from the state; it is all on a royalty basis of 5% of the gross value of the output of minerals from such land. It is not an ad valorem tax, hardly, nor a net profit tax, it is a gross value tax by which the operator pays into the state 5% of the gross value of such minerals as he may remove from the public land. That has been in effect about two years and has not been productive of much revenue except in case of some isolated oil and gas lands which the state found it owned on the Gulf of Mexico and within the tidewater limits. We have had another interesting thing down there in respect to the conservation of mineral resources, and that has been to take a pair of boots and grease them well and put them away in a closet and say, "We will conserve those boots for the benefit of posterity." (Laughter.) There are some states, gentlemen, which do not consider anything but the "reservation" of rights and do not know what conservation means. I would be among the last in this country to deplete any of the natural resources or any portion of them, but I think we are putting the cart before the horse, and as the horse has been sufficiently discouraged by the introduction of automobiles, I think we ought to regard his feelings a little more. It is development that this country needs, not conservation. (Applause.) We need less of the spirit of saving and more of the spirit of giving of our time, our money, and our intelligence to upbuilding a far-sighted, prudent and economic nation. We do not make a nation by conservation, gentlemen, we make a nation by development; and that, I believe, is the trouble over the

whole of this beautiful land of ours, the lack of systematic and economic development. When that comes about we shall hear less of conservation, because, as I regard it, conservation is perhaps a shorter term for what should be named a wise development. We have obscured many of the important considerations that confront us as a nation by coining that word "conservation," and it has deceived some of the elect. (Applause.) We need a greater confidence in the mining industry as an investment. We need a wiser system of development which shall look not only to our own benefit but to the benefit of those who are so soon to come after us. I have never had any sympathy for the man who is inclined not to consider benefits to posterity on the plea that posterity had never done anything for him. (Laughter.) How to bring about development without depleting the resources of the country is a matter demanding the utmost statesmanship and the most acute observation and consideration. Some years ago the commissioner of agriculture in the state of Texas was president of the State Conservation Association and asked me to speak before a convention of lumbermen in San Antonio on the question of conservation of the lumber supply of that state. I did so, and thought I made a pretty good talk, and a lumberman got up and said: "I would like to ask you one question. We have bonded our lands for so much; we have to meet a certain rate of interest or this property goes into the hands of the bondholders. We have got to cut a certain amount of timber every month. Now, how are we going to conserve the timber supply of this state and at the same time meet our fixed charges and bonded interest?" I sat down. It is beyond me how to conserve a supply and at the same time use it—how to eat your cake and have it. I do not believe that any set of laws would press equally upon all of the business of this country; each thing has to be considered in and for itself. The laws that apply to the conservation of the anthracite supplies of Eastern Pennsylvania do not apply to the conservation of oil in Oklahoma or natural gas in West Virginia. If we are to have any system of state or national conservation that system will have to be based upon local needs. I do not know that General Hancock was so far wrong, though he was much derided for it, when he said the tariff was a local issue. Events since his day have shown that the old general, a better soldier than politician, knew what he was talking about when he said that it was a local issue. Conservation laws that press upon coal and oil supplies cannot be the same as those which press upon copper supplies or lead or zinc or tin or whatever it may be. I was brought up in the old school of belief that the creation and preservation of a body of self-respecting, prudent and intelligent people in this country depended upon as little governmental interference with private affairs as possible. (Applause.) It is, in my opinion, the fundamental principle on which we have built this country up to what it is today. There are some things in which the government interest must be shown and the government money be expended, but, looking at things by and large, the less we have of governmental control in this country the greater is our progress in all the elements of good citizenship. (Applause.) There are some things, however, gentlemen, that the government must do for us because we cannot do them for ourselves. Now, where that line lies is for our individual judgment to determine. In some cases it may lie in one direction, in some cases in another direction. It is impossible to say where it shall lie in all directions. In the matter of looking into the supplies of material within this country as a whole, the government must do for us what we cannot do for ourselves. Now, I will take occasion, if you will allow me, to point out one thing especially to you people in the state of Arizona, continuing a few remarks I had the honor to address to you last night. It is the fact that the entire hope of this part of Arizona is based on the possibilities of continuous and successful irrigation of farm land from the great Roose-

velt dam. Is it not so? The great agricultural hope of this part of Arizona is based upon the possibility of irrigating this beautiful valley. The same is true of many other valleys in Arizona. You must have water in this Western country as we must have water in the western part of my own state. Do you know that the surveys, estimates and calculations upon which the construction of these great irrigation schemes is based was made by the United States Geological Survey and not by the United States Department of Agriculture? Is it not true? The United States Department of Agriculture had very little to do with the surveys on which you people expect to build an agricultural community here at Phoenix; that is work that must be done by the general government for the benefit of the entire citizenship, and it is in this respect—a very notable one—that we must apply to the government for aid.

In the adjoining state of New Mexico we see another striking illustration in the great Elephant Butte dam. All those surveys, all those estimates, everything of the sort, was made by the United States Geological Survey, although not one acre of that land will ever come into use for geological purposes. It is all agricultural. It shows all the different departments of the government are intertwined and interknit so that the work of the Geological Survey inures to the benefit of the Department of Agriculture and to the benefit of all of the citizens who expect to use that land for farming purposes. There will not be a foot of land put under use by the Elephant Butte dam that can be used for mining purposes; not one foot. It is all agricultural. And yet, as I endeavored to point out last night, this Survey and the Bureau of Mines is actually starving to death for lack of a little money from the general government. It is not to our credit as a nation, gentlemen, that we are starving these two great agencies for the benefit of the entire population of this country; it is not to our credit; it is, rather, more to our shame.

I thank you very much for the attention you have kindly given to these remarks. I had a paper prepared. I haven't said much about what is in the paper; in fact it is a very good scheme to write a paper and read it to your wife before you leave home. We all do that. (Laughter.) Poor, suffering creature, she has my sympathy. (Laughter.) But she always says, "That is the best thing you ever wrote;" and you get all puffed up about it, and come out and measure yourself among men of your own size and dwindle down like a balloon with a hole in it. So my paper is with the Secretary, and these remarks are with you, with my sincere gratitude for your kind patience and attention. (Great applause.)

Dr. Phillips' address will be found at page 160 of this report.

THE PRESIDENT: Ladies and gentlemen, Dr. Phillips' address concludes the program for this morning, and I think we are very much interested in it. Being on the inside, I am going to confess to you that Dr. Phillips' paper has not been written. His fumbling around among the documents on the table here, ostensibly endeavoring to find it, was a fake. But we are going to have the speech to which you listened written up and printed in the minutes of the proceedings and you will see it later. He told us about a gas well spouting some fifty million feet a day. I think some very solid facts have come out of that gas well, and we are going to profit by it. (Laughter.)

The session this morning was called for 9:30, and at 11 we got away. I would ask you to cut your lunch hour short and get back here at 2, because we have some very interesting papers to listen to. Unless there is something further to come before the meeting this morning we will now stand adjourned until 2 o'clock.

Meeting adjourned.

WEDNESDAY, DECEMBER 9, 1914.

Afternoon Session.

2 O'clock P. M.

(Vice President Day in the chair.)

THE VICE PRESIDENT: The Congress will please come to order. The first business for the afternoon session is the introduction of resolutions. Has any delegate an additional resolution to introduce? If so, he will please convey it to the Secretary's desk where it will be read and referred to the Committee on Resolutions. Don't be bashful, gentlemen; now is the time to introduce those pet resolutions which you have been carrying around in your vest pockets for some time.

(Secretary reads Resolution No. 4.)

RESOLUTION NO. 3

(Introduced by L. S. Judd, Vicksburgh, Ariz.)

Mineral Land Within an Indian Reservation.

Whereas, A recent resurvey of the Colorado Indian Reservation has taken in mineral land upon which entries have been made and work prosecuted for years without protest on the part of the agent of the reservation, or the Department of the Interior.

Now, therefore, Be it Resolved that the Bureau of Mines be requested to investigate the rights of the interested property claimants, to the end that intelligent assistance may be rendered them in such legislation as may be brought by their representatives in Congress, for their relief.

CHAIRMAN DAY: This will be referred without debate to the Committee on Resolutions.

(Secretary reads Resolution No. 4.)

RESOLUTION NO. 4

(Introduced by Charles H. Clapp, C. T. Willis and S. H. Worrell.)

Whereas, The Congress of the United States of America has appropriated at various times the Morrill Fund of \$50,000, the Adams Fund of \$20,000, the Hatch Fund of \$15,000 and the Lever Fund of \$10,000 yearly to each state agricultural college, making a total of \$95,000 yearly; and

Whereas, This money has been spent to such great advantage to the farmers and the farming industry that they are continuing to call for more money, that it behooves us as representatives of the mining industry; and

Whereas, No money has been appropriated at any time to foster and stimulate instruction in mining subjects although approximately 50% of the above amounts are directly for instruction in agricultural subjects; and

Whereas, The total aggregate value of agricultural products is \$10,000,000,000 and the total value of mineral products is \$4,600,000,000 or 46%; and

Whereas, The importance of the industry is further reflected by the fact that approximately 60% of the freight hauled by the railroads is for the mining industry;

Therefore be it Resolved, That we, as representatives of the mining industry, ask the Congress of the United States to pass favorably a bill similar to the Austin bill which provides that an appropriation of \$25,000 per annum be made to each mining school in the United States.

CHAIRMAN DAY: No objection appearing, it will be referred to the Committee on Resolutions.

MR. BASS: I would like to ask if there have been any resolutions in relation to the leasing of the public lands or any discussion on that subject.

CHAIRMAN DAY: Yes, there is a paper here somewhere entitled, "The Administration's Public Land Policy," by John F. Shafroth, senator from Colorado. As I understand it, that is one of the orders of business this afternoon.

(Secretary reads Resolution No. 5.)

RESOLUTION NO. 5

(Introduced by Dr. William B. Phillips and Mr. R. C. Allen.)

Resolved, That the American Mining Congress respectfully urges the Congress of the United States to pass during its present session in Washington the bills now pending before both the Senate and the House which provide for the establishment of mining experiment stations and mine safety stations looking to a reduction of the hazards and the wastes of resources in the mining, metallurgical and other mineral industries;

That the American Mining Congress also respectfully petitions that in the enactment of this legislation the number of mining experiment stations be increased from ten, as provided for in the pending bills, to fifteen, which larger number is still less than one-third the number of agricultural experiment stations already established and maintained from the national treasury.

Resolved, That the President of the American Mining Congress appoint a committee of three persons in each of the states to co-operate with the Secretary of the American Mining Congress and a special representative, also to be appointed by him, in Washington, in securing the enactment during the present session of Congress of the bills now pending before the Senate and the House of Representatives, which provide for the establishment of mining experiment stations and mine safety stations in the more important mining regions of the country.

CHAIRMAN DAY: No objection appearing, the resolution will be referred to the Resolutions Committee.

MR. SWART: I would like to submit two resolutions.

RESOLUTION NO. 6

(Introduced by W. G. Swart of Colorado.)

Resolved, That the American Mining Congress, recognizing the necessity of carrying forward the movement for greater safety in mining, places itself hereby on record as in favor of the earliest possible adoption of a uniform national system of bell and danger signals.

RESOLUTION ON. 7

(Introduced by W. G. Swart of Colorado.)

In view of the humanitarian, as well as the metallurgical interest and importance attached to radium investigations, the American Mining Congress urges the Congress of the United States, now assembled in Washington, to provide the necessary appropriation and authority to enable the Department of the Interior to purchase a supply of radium ores and to carry forward its metallurgical investigations at least to such extent as may be necessary to demonstrate the lower cost of producing radium and other rare metals found in the public land states and to supply a sufficient quantity of radium to meet the needs of the government hospitals.

MR. CLARK: I will ask that these resolutions be referred to the Resolutions Committee.

CHAIRMAN DAY: No objection appearing, it is so ordered.

The next on the program is an address by the chairman of the Committee on Alaskan Legislation, Mr. Falcon Joslin, Fairbanks, Alaska.

SECRETARY CALLBREATH: Mr. Chairman, I have Mr. Joslin's communication. It is rather long, somewhat in the nature of an address, outlining the present conditions in Alaska, describing the legislation with reference to the construction of railroads and the leasing of coal in Alaska and so on. It is so long that I would suggest that we read it by title, and all of our members will have an opportunity a little later to read it in the proceedings of the Congress.

CHAIRMAN DAY: No objection appearing, it will be so ordered. The Secretary will please read the address by title. (See page 153.)

If Mr. Clapp is now ready to deliver his address we will be very glad to hear from him.

Mr. Clapp's address will be found at page 177 of this report.

CHAIRMAN DAY: The next paper on the program is one entitled "The Federal Control of the Water Power of the West," by Hon. E. A. Wedgewood of Salt Lake City, Utah. As Mr. Wedgewood is not with us, the paper will be read by title by the Secretary and passed.

SECRETARY CALLBREATH: The paper has been printed and passed around. (See page 181.)

CHAIRMAN DAY: The next on the program is the report of the Committee on "Workmen's Compensation," by Mr. Samuel A. Taylor of Pittsburgh, Pennsylvania.

Report of Committee on Workmen's Compensation.

To the American Mining Congress:

Gentlemen—Your Committee on Workmen's Compensation has not had a meeting. The reason for this is as follows: There were a number of states that had under consideration the compilation of workmen's compensation bills to be presented to the next session of their legislature. The chairman having this in mind tried to secure some information on these proposed bills, and also tried to secure copies of all compensation laws now in force in the various states, which number 24, as well also any suggestions for changes thereto resulting from the experience gained in the operation of said laws. The purpose of these inquiries were so that we could examine these various laws, tabulate the essential points of the laws which were in common and also to note the points in which they differed. This information was not secured from all the states and those which were received were not received in time to permit the chairman to tabulate the points he had in mind so that the time of the committee would be saved, and get the committee together for action thereon. The result therefore is that this brief report is the report of the chairman rather than the committee as a whole, and is only a brief report of progress.

In response to a question asked from each state as to the operation of their compensation laws, almost the universal reply was that it is working very well, although in some cases they have certain changes which they propose to their present law in order to render it more effective. This is no doubt due to the fact that most any law where a fixed amount and an exact method of providing such compensation is a great improvement over the old method of collection by suit at law, in which case the party entitled to and receiving compensation was often deprived of a large amount of what was paid by the employer.

In several states specific changes are under consideration which will make the law more simple, fairer and surer in its operation, and in several other states that have had their compensation acts in force long enough to show their shortcomings and to have the acts amended by the legislatures of the states, have already amended them to a good advantage.

I wish to say that so far as I have examined into these acts, there is very little in the amended acts that is much of an improvement over the proposed act recommended by a former committee of the Mining Congress.

Two features of all the laws passed are well worth while to consider, by all those states contemplating the passage of a compensation law. First, that so nearly as possible in all states uniform tables of compensation be secured, or in other words, if a uniform percentage of wages for a uniform period of time could be secured then a much better and fairer comparison of the different acts can be compiled.

The State of Wisconsin has made a comparison of the laws of some ten states in the bulletin of the Industrial Commission, Vol. 1, No. 3, dated July 20, 1912, and by reference thereto will be seen at once how much a uniform amount of compensation is needed.

The other question is the method of collecting the compensation. The question of the compensation being compulsory or elective, and also the question of a prompt and economical method of administering the fund.

In connection with this second question, it seems very apparent that it is desirable for all companies, large and small, engaged in the same business to be obliged to come under the compensation act on exactly the same terms, for otherwise an unbalanced condition will exist which may work out to the detriment of the small or independent company as against the large company or combination of companies, both in the way of securing employes and as to the cost of said compensation. For example, suppose a large coal company operating many mines had an explosion in one of their mines, where a number of men were killed. This large company carrying its own risk might be able to pay all of the claims under a compensation law, while if the same accident would happen to a company owning only the one mine where the explosion took place, would not have sufficient capital to pay the amount of compensation stipulated in the law, for all the deaths which occurred in said explosion. The result of such an accident would probably mean the bankrupting of the small company and in addition to this the men engaged in this industry would thereafter seek employment in the larger or stronger companies and would only work for the smaller company when they could not obtain work with the larger companies, and thus work to the detriment of the small companies. A uniform and compulsory compensation law would overcome this by all paying the same proportional amount, and would also place all companies, regardless of size, on a parity in the matter of operation. Furthermore, the cost of said compensation being uniform would be easily estimated as part of the cost of production and added thereto, and thus the consumer would pay for it in the end, which I believe is only fair.

If such a uniform basis can be formulated for all the states, I am sure compensation laws will become more popular and desirable.

Finally, examination of these reports, so far as I have been able to study them, seems to bear out the fact that where all employers are classified into groups according to the hazard of the employment, a uniform assessment made and all employers and employes obliged to come under the law, a much better feeling exists between the employers and employes. A great improvement is also experienced over the old

method of settling the claims for accidents and the common weal is advanced by having fewer paupers or persons dependent on charity.

The work of the Mining Congress along this line now seems to have reached a point where it should advocate nation-wide compensation laws, uniform in the percentage of the wages paid to employes or their dependents and also as to the method of collection and administration. And if it were possible to have a national law applying to all states alike this would be very desirable, but inasmuch as a national law cannot under the present status of governmental affairs be applicable, it is very desirable to work to the end of securing a uniform basis for compensation laws in all states.

This seems to me to be the special work of the Mining Congress at the present time.

Respectfully submitted

S. A. TAYLOR,

Chairman Compensation Committee.

CHAIRMAN DAY: Gentlemen, what is your pleasure with regard to the report of the Compensation Committee? Discussion is now in order. If no remarks are forthcoming the paper will be accepted and placed on file.

The next on the program is "The Law and Compulsory Arbitration," by Hon. James A. Emery of Washington, D. C.

Mr. Emery's paper will be found at page 227 of this report.

SECRETARY CALLBREATH: I would like to say that we made our very best effort to provide a complete discussion of this subject. It would seem that the enormous waste occasioned and the bad feeling engendered by labor strikes, to say nothing of the loss of life, which amounts to crime in many instances, call for the action of an organization which has as one of its primary, basic purposes, the bringing about of the highest efficiency. I have corresponded with leaders on the various sides who might be expected to have decided opinions on the question of compulsory arbitration, asking them to present papers or to appear here and discuss this subject. I have not been able to find anyone, either upon the side of the laborer or of the employer, who is willing to unqualifiedly say that he favors any system of compulsory arbitration. From the standpoint of the operator it is urged that the award could not be enforced against the worker because of the fact that, while it might prohibit a combined going out of the help, it could not possibly prohibit the ceasing of work by any individual. On the other hand, the laboring people insist that compulsory arbitration would be absolutely destructive of the independence of the American working man. At the time the Chicago railway strike was impending and the efforts by the President of the United States were being made to have the dispute adjusted and referred to arbitrators, it was stated to me by a very high public official, who was also a representative of labor, that in case there should be a tie-up of the traffic of the United States for a period of ten days nothing under the sun could prevent the enactment of laws requiring arbitration of labor disputes in such cases. It would seem that in cases of concerted action to stop the passage of traffic, which would practically put the larger cities of our country on a starvation basis, that the public has rights which should be recognized. It would seem that there should be some method by which disputes could be settled in those lines of business which directly affect the public. It seemed to those of us who prepared the program for this meeting that even though we might not at this meeting accomplish anything, we might at least bring to the front a question which is bound to be a vital question in the future. I do not believe that under the conditions in this country as they now are we can afford the enormous waste which is consequent upon industrial strikes, and other countries have shown us a

way by which a greater part of these losses can be avoided. The papers which are presented are intensely interesting, and I do not know whether this audience would care to have them presented or not, but I have made this preliminary statement with this thought only, that we ought to start a movement looking to the elimination of that enormous waste and bitterness and crime which often follows a bitter dispute between employer and employe. We are all alike in one respect—when we get into a contest we do not stop to ask whether the club at hand has a black end or not, we take it and strike. When labor disputes come things are generally done which those guilty of the infractions of the laws do not attempt even to justify. I am wondering whether this convention is large enough to undertake the beginning of a movement looking to a betterment of these conditions.

CHAIRMAN DAY: The next paper on the program is entitled "Compulsory Arbitration," by Mr. Samuel O. Dunn of Chicago.

Mr. Dunn's paper will be found at page 230 of this report.

SECRETARY CALLBREATH: I would like to have a suggestion from somebody in the convention or from a number of those in the convention as to whether it would not be wise for the American Mining Congress to appoint a committee to investigate this general subject with a view of reporting at a later convention or back to the Mining Congress as to whether or not any remedy for the existing conditions can be brought about.

CHAIRMAN DAY: Gentlemen, you have heard the suggestion of Secretary Callbreath. What is your pleasure in regard to it? It seems to be a matter well within the province of this Mining Congress. The question of the relations between capital and labor is an acute one in the various parts of the country. No discussion apparently being forthcoming,—

MR. DOUGLAS: Mr. Chairman, with reference to this matter of compulsory arbitration, it seems it should be confined at the present time to industries which furnish the necessities of life. Possibly these would include only transportation, and so far as the mining industry is concerned, the production of fuels. These two commodities the public cannot get along without. The question as to the successful working of compulsory arbitration, I think, is very doubtful, when it is applied to what either the employer or the employe might consider his "honor." We run up against the same stone wall that the international arbitration treaties have encountered. The question of "honor" in the mining industry as between the employer of labor and the workman resolves itself generally into a question of the recognition or the non-recognition of the union. Now, whether a matter of that kind, whether a question of recognition can be left to arbitration, is the most important one. I think there are very few cases in which we have had any serious labor difficulties in this country where the union question was not the principal one in dispute; and therefore I do not believe that it is well to dismiss this subject without full consideration, and in accordance with the recommendation of the Secretary I move that a committee be appointed by the Chair to consider this matter and to report at the next general meeting of the Congress.

(Motion seconded.)

MR. HULL: Mr. Chairman, two years ago I had the pleasure of being at the meeting of the National Civic Federation. Twenty-five of us were on that committee. We took up this same proposition, which we supposed would do the work which you are attempting to do now. In all the resolutions I took an active part, and when we went into the convention they were accepted, and they were as good a set of resolutions

as were ever gotten up any place in the United States. There may be some gentlemen here that were there on that occasion. I was asked to go if I could, and I went there, and we agreed upon some propositions, but those propositions have not been entirely worked out.

Now, in regard to arbitration, of course that comes under our own constitutions. In adopting these resolutions you could not go to work and adopt arbitration measures without they should be prescribed by the laws of your state, and I hope that they can be. I hope something could be done that would bring us all together, the workman as well as the mining man. I think if we did appoint some men we might, through the efforts of this Congress, do many things that would be for the benefit of the mining men, the laborer and the companies that employ them.

CHAIRMAN DAY: We would like to hear from another gentleman who has views to submit on this question. The motion is before the house. Are you ready for the question. (Question called for.)

SECRETARY CALLBREATH: Mr. Chairman, would it not be wise to extend the authority of this proposed committee to cover not only compulsory arbitration but mediation and conciliation, so that if it were found that compulsory arbitration is impracticable at this time, it could recommend means through which mediation and conciliation can be made more effective. Much has been done already in that direction, but there is much more to do. I would suggest that the resolution be so framed that the committee would have full authority to go into any means through which industrial disputes might be settled in some other way than by strikes.

MR. DOUGLAS: I accept the Secretary's modification.

CHAIRMAN DAY: The widening of the scope of the motion has been accepted by the author. Is it agreeable to the second?

MR. DELEGATE: It is.

CHAIRMAN DAY: A motion has been made and seconded that a committee be appointed to consider the question of compulsory arbitration, mediation and conciliation, and to report, as I understand it, at the next meeting of the Mining Congress. Is that your idea, Mr. Douglas?

MR. DOUGLAS: Yes.

(Motion carried unanimously.)

CHAIRMAN DAY: The chair will take the appointment under advisement in the absence of the president, Mr. Scholz, and the appointments on the committee will be announced later.

Has any delegate anything further to submit?

SECRETARY CALLBREATH: Mr. Chairman, there seems to be nothing further upon the program this afternoon except the consideration of the report of the Resolutions Committee. I would suggest that if the people here are anxious to see the Arizona mineral exhibit, as I have no doubt many of them are, after calling upon the Resolutions Committee to report what business they have agreed upon, and its consideration, we might adjourn in order to give the delegates present an opportunity to see that exhibit.

MR. CARMICHAEL: The Resolutions Committee would prefer to wait until tomorrow morning to make its report. We have no resolutions ready to report at this moment.

CHAIRMAN DAY: No further business appearing, an adjournment will be taken until tomorrow morning, and the meeting at that time is supposed to be taken up largely by discussion of the resolutions. I

wonder if it would not be well for us at this time to take up a discussion which was scheduled for tomorrow morning on the subject of "What Is the Matter With Mining?" which was to be led by Mr. Knight of Utah. I think it rests with the convention which they would prefer to do.

MR. SWART: Mr. Chairman, I move that we take up that discussion and let us have it out.

CHAIRMAN DAY: We are fortunate in having Mr. Jesse Knight of Utah with us, who will lead this discussion.

Mr. Knight's address will be found at page 150 of this report.

CHAIRMAN DAY: I am sure we have all been very much edified by the remarks of Mr. Knight. I know of no one in the mining business better qualified, by reason of wide experience and good judgment, to express the sentiments of the miners of the West. We would like to hear from others. (After a pause.) If we don't get more muck we will have to put in the shot and shake up this hard formation. Mr. Secretary, I would suggest that you call the roll of the states, and we will ask the delegates to respond by states.

SECRETARY CALLBREATH: The first on the list is Arizona.

CHAIRMAN DAY: Who will tell us what is the matter with mining in Arizona?

MR. JOSIAH BOND of Arizona: Mr. President! I am a prospector residing in Arizona. I think I can tell you one of the things that is the trouble with mining. My general view has been well expressed by the gentleman from Texas, Dr. Phillips. He remarked that they didn't have such an awful lot of mineral production in Texas, but what they lacked in production they made up in legislation. Now, we can beat Texas a hundred to one in mineral production, I suppose, but we can beat them a thousand to one on legislation. That is, to my mind, one of the most serious troubles of the present day, not only with mining but every other form of business, what I might call, tinkering with legislation. Unfortunately in the last six or seven years we have had dull times, and a lot of people have been let loose to think up something to worry the rest of us with, and they have succeeded in doing it pretty well. These laws are probably well meant; at least they are not proposed by vicious people. I know many people in my own voting precinct (where almost every one of these laws carried), and they are all good people, and lots of them are my friends. They vote against their own interests many times, because I believe they do what the ordinary man does under some kind of atavistic law—they follow the leader, and when the bell-sheep runs off they run off with him, and when somebody proposes a law they don't want to be disagreeable about it, and having, they think, nothing at stake, they say, "All right."

Now I have a few claims and I have been trying to sell them, or some of them for a long time, but I can't do it; but whenever I can I lease them. I have one or two claims now leased to a man who is a great union labor man. I can tell you a little incident about him that I think will illustrate the present condition pretty well. He is not only a great union labor man, but he is also a Socialist of the most advanced German type, and he was boasting to me—I might even say he was bragging to me—that at the present time in the State of Arizona the condition of the laboring man in the eyes of the law was the best that ever was in the world (and I was inclined to agree with him), but shortly afterwards in the same conversation he admitted to me that it was the hardest he had ever known in his own history, the hardest time for a man to get a job. Now, don't you see that the two go together? When people try to produce legislation for their benefit only, and at the expense of the rest of the community they get the rest of the com-

munity a little frightened. Sooner or later they will get them thoroughly frightened and then they back off and they refuse to go into anything. Well, that is the result in mining right here in Arizona. We cannot raise money for perfectly legitimate and good schemes in mining or in any other way simply because the people are afraid of what is going to come next.

Now, of course, most of this legislation has been poorly thought out. We adopted at the last election in this state what was known as an anti-blacklist law, which provides that you must not ask any questions of a man when you hire him. This was initiated by the labor men, I suppose. At the last minute the labor men in Tucson concluded that they would vote against it, because they discovered that it might knock out the union shop altogether. If you could not ask a man any questions, or whether he belonged to a union, how in the world could you have a union shop? This is what I mean by saying the legislation is not well thought out, and does not help the ones in whose supposed interest it is passed. They have not had good advisers in suggesting the legislation and it is what we might call half-baked, and this is troubling not only the mining industry, but every other business in the United States.

The people have gotten into that state of mind where they are willing to try all sorts of experiments, and I think this Congress ought to go on record against that sort of experimentation. We do not need it. For example, we have proposed a resolution, which will be presented here tomorrow for us to vote upon, urging a change in the law in regard to mining locations. As a prospector I do know something about that question, and I am willing to admit right now that probably the man who proposed that law in the first place—Senator Stewart, wasn't it?—if he had known how our deposits were going to be found in later years, couldn't have proposed any law that would have been worse. But the Supreme Court of the United States and all the other courts in all the mining states of the Union have threshed away at the law until they have reduced it to some kind of intelligible terms, so that the ordinary man understands it. Now, when I propose to men to go into prospects with me they want to know under what kind of a title I hold them and what kind of security I can give them that the law will be the same in the course of a year or two from now as it is today. Of course I cannot give such assurance, nor can anybody else for that matter, but I want to go on record here as opposed to all changes in the law which are not demonstrated to be absolutely necessary.

I was a strong silver man in 1896. I can prove to every man in this house that the free and unlimited coinage of silver at the ratio of sixteen to one is entirely correct. Yes, sir. But the inexorable logic of events has been against the proposal. Lots of bills that are perfectly right theoretically, when you come to put them into practice are all wrong. There has been some talk about the causes of the war in Europe. I believe that the microbe of experimentation has gone around the world, and the great German people, who pride themselves upon the great improvements they have made in everything, upon their superior kultur, and above all upon their efficiency, with this microbe working, had to do something to change the situation, and they thought they would change it completely while they were at it. (Laughter.)

This is the idea I want to impress upon you: I think this Congress ought to go upon record—it is an important body of men, gathered from all over the United States—and I say it ought to go upon record in warning the people against this tinkering with the laws when it is not necessary, and when there is no good to be derived, even from what looks on the face of it like a theoretically good thing. Now, I don't know whether I have made myself plain to you or not, but I hope I have, because I feel very strongly about it, and I feel that I am right about it, too. I thank you for your attention. (Applause.)

CHAIRMAN DAY: I am sure we are all glad to hear from Mr. Bond on the subject near to his heart. It strikes a responsive chord with lots of us, I am sure, and we appreciate his suggestion looking toward a resolution of some suitable protest against this mania or hysteria for some new legislation to which he so feelingly refers.

MR. McALPINE of Oklahoma: Mr. Chairman, I am a little out of order on account of having to leave in a few minutes to attend a committee meeting. I want to say that I have enjoyed every minute of my stay in the state and also in the City of Phoenix. I have also enjoyed and profited by what has been said in this convention; but inasmuch as I come from a coal mining state and there has been little said along coal lines here, I am somewhat disappointed.

I regret that those who were on the program to speak on the subjects of "Compulsory Arbitration" and "Workmen's Compensation" are unable to be here and discuss them. I have remained perhaps a day longer than I would have done had I known they would not be here. We are meeting these problems in Oklahoma, and you are going to meet them, and whether we like it or not they must be confronted. At the coming legislature in Oklahoma it is almost certain that a workmen's compensation bill will be brought before that body for passage. There have been workmen's compensation bills proposed at different times and I am sure that at the coming session of the legislature an attempt will be made to pass such a law.

I am interested in this subject and, having a large number of men in my employ, I realize the need of having a law of this kind. I am a believer in a compensation law and I hope one can be passed that will be just and fair to all concerned. I had hoped that this subject would be discussed from all viewpoints and that I would be able when I returned home to offer suggestions that would be for the good of the cause all along the line.

In a state where you have laws such as were mentioned this morning by Mr. Douglas, and which are on the statute books of my own state, mining men know that it is an every-day occurrence to have men come to you, demanding that you shall recompense them for injuries, many of which are imaginary and many for which the company is in no way liable. I have such to contend with daily and often we are compelled to go into court to defend ourselves against people who are suing us oftentimes when they have no just claims against us. And you will always find, where these laws exist, there is a certain class of lawyers who make it their business to be near when an accident occurs and who oftentimes induce those injured to sue for recovery of damages on a percentage basis; and, if you have not this type of lawyer here now, you will have them, since you have passed the laws referred to. You will also find that when some men receive slight injuries—injuries for which they don't lose more than one or two weeks' time—you will be sued for amounts of from \$2,000 to \$10,000. Although they do not always recover damages, they nevertheless cause you a great deal of trouble, and I am sure, in the main, that if we had a compensation law that would be administered by a commission of fair and just men we would be much better off than we are at present, being dragged, as we are, into court on account of every little accident that occurs to our workmen.

In regard to compulsory arbitration, I desire to say that from my own views and dealings with labor I am opposed to it. In Oklahoma, the coal operators have a joint agreement with their workmen. For the past four years we have had a system of compulsory arbitration for adjusting our disputes, but at the time of making a new contract last summer in Kansas City the miners took a positive stand against our system of compulsory arbitration and positively refused to again sign a contract in which all cases not decided otherwise were finally to be

arbitrated. The operators favored compulsory arbitration on the ground that it was better to have a final means of settlement of disputes (although the system did not meet with their entire approval), rather than have their men, in case of failure of settlement of any question, take independent action and strike. The president of the Mine Workers' Union took a very decided stand in opposition to compulsory arbitration and quoted a prominent American statesman in saying the world was not ready for compulsory arbitration. The obvious reasons of the miners in their opposition were:

First—That believing their position taken on a disputed subject was right, they did not propose to have it subjected to the element of chance that always enters into arbitration, with the possibility of losing their case;

Second—The fact that a case not settled otherwise has a tendency to cause those interested, and especially those who have doubts as to the justice of their claims, to throw the responsibility on an arbitrator.

Their reasons are, in my opinion, good and logical. I have found that when every argument is beaten down and a position can no longer be maintained, the loser in the dispute is always ready to declare in favor of arbitration. This is the case with both employer and employe. I am in favor of a workmen's compensation law, but opposed to compulsory arbitration.

CHAIRMAN DAY: Who will speak for California?

MR. MUDD: Mr. Chairman, the last speaker referred to one of the workmen's compensation laws. We have a new compensation law in California; the terms of it are drastic, perhaps as much so as those of any state that has enacted a compensation law. The premium rate agreed upon by representatives of a number of accident insurance companies was 7.86% of the pay roll for underground employes. The California Industrial Accident Commission named the same rate, but declined to accept any mining risks. I think a number of the stronger mining companies carry their own compensation risks, but quite an amount of insurance was written at a premium rate of 7.86% of the pay roll, although some of the accident companies made concessions under certain conditions.

The rates charged by the California Industrial Commission for employes of other industries were so high that the state is now returning to the insured about 15% of the premium paid. Both the state and the accident insurance companies were very uncertain what the proper premium should be under the new law, and in the beginning made the rate too high. It is assured that in the near future both the state and the accident insurance companies will name lower premium rates.

The California Metal Producers' Association is now being organized by the actual operators of the state and the first subject they have taken up seriously has been this one of compensation insurance. Their investigation indicated that little if any more than one-third of the premiums charged ordinarily for accident insurance reached the injured employes. This does not mean that the other two-thirds became a profit to the accident insurance companies, for the cost of securing new business and handling it afterwards is great, but it does mean that the insured have to pay a very high rate for accident insurance ordinarily.

It was at first thought it would be necessary for the members of the California Metal Producers' Association to adopt a co-operative or inter-insurance plan. After this plan was advanced one of the accident insurance companies named a sufficiently low rate to be attractive and insurance will be taken out by many of the members of the California Metal Producers' Association with this particular accident insurance company. The rate charged is very much less than the rates asked a year ago.

A gentleman from Arizona referred to the conditions in Germany, where compensation insurance has been in force for many years, and said that the number of accidents was great and that the injuries were slow in healing.

Twenty-five years or more ago I was connected with a property that was doing very well indeed. The stockholders were happy and generous and they wanted to do everything they could for the miners. They adopted a rule that whenever a man was sick or injured he should receive full pay until he returned to work. Accidents were numerous and it seemed that the men were very slow in recovering. Sprained backs and mashed fingers were out of all proportion just before a baseball game or any other attractive event. The amount of money paid to employes for time when they were not at work became so great that finally the rule referred to was abandoned altogether and the men were forced to make a very clear case before any compensation for injuries was allowed. Thereafter the number of injuries was reduced materially.

I believe no compensation laws will in the end be satisfactory to both parties until the employe becomes a contributor to the compensation fund.

No matter how well a law may be framed there will be more or less injustice to both employer and employe. I think the question of unjust claims has been the one that has worried the accident insurance companies in California more than any other. The proper premium under a specific state law can only be determined accurately by the experience of a number of years. This proper premium will be effected by the precautions taken and rules adopted by the employers, but, more largely, by the earnest efforts of the employes to prevent accidents to themselves and to co-employes and the monetary interest in seeing that no unjust claims shall be made by any of the employes. The aid of the employes in eliminating unfair compensation will become a very important matter and I fear such aid will not be freely and systematically given until the employes themselves are financially interested in reducing the premium rate through the fact that they themselves are contributors of a certain percentage of the premium.

While the employer will probably always contribute the greater portion of the money for compensation insurance, I believe the contribution of the employes will eventually be welcomed by the employes and will result in a more self-respecting, independent set of workmen. All of us have probably noted the reluctance of employes to use facilities around mines and smelters which are furnished free and to which they contribute little in the way of money or control.

I believe ultimately we must come to an arrangement whereby part at least of the compensation comes out of the fund deducted from the employes' wages before the compensation laws reach their final and most satisfactory form. (Applause.)

CHAIRMAN DAY: We are getting a large amount of valuable information as we go along, gentlemen, and we would like to hear from others.

Before Colorado volunteers—and I know there will be a dozen of them—I would like to ask Mr. Carl Scholz, the President, to come forward and take his job. I belong to the Resolutions Committee, and I see a chance to get away now that that committee is going out to resume its labors.

THE PRESIDENT: I will call on the Secretary to speak for Colorado.

THE SECRETARY: Mr. President, I would like to refer to one recent instance in Colorado as an example of one of the things that stand in the way of a better mining development and which I fear in the

future is going to be a greater obstacle than it has been in the past. I will first state the facts as nearly as I have them. Some years ago Mr. Bolthoff, whom you will recognize as the junior member of the firm of Hendrie & Bolthoff, the machinery manufacturing firm in Denver, filed on a number of mining claims and a mill site in the Clear Creek valley. As time went on he proceeded to develop those claims, spending, I am told, something like \$60,000. Something like a year ago he concluded that the development had proceeded far enough to justify the construction of a mill. He proceeded to the construction of a mill upon the mill site, and at the same time applied to the government for patents upon his mill site and upon his mining claims. While his patent application was pending he expended something like \$25,000 in permanent construction work upon a mill and had machinery of approximately equal value purchased for it, ready to complete the mill, when, to his great surprise, he was met by the determination of the Land Department that the mill site connected with his mining claims could not go to patent because of the fact that the valley had been withdrawn from entry as a water power site and in consequence his mill site could not be patented. An appeal has been made to the Secretary of the Interior. Mr. Bolthoff was forced to employ a firm of attorneys, sending them to Washington, and after considerable effort on the part of the senators from Colorado a hearing was finally arranged before a subordinate of the Interior Department. The attorney presented his case very ably and is now awaiting a decision. I am not certain, of course, as to what the decision will be. One thing is certain, however, the only ground upon which he can hope for the cancellation of the withdrawal and the granting of his patent is the fact that his mill site was filed on before the withdrawal was made. Had it been after the withdrawal there would be no hope for his getting patent to that ground until the federal administration shall entirely reverse its theory of handling of our Western lands. There is a possibility that he may receive his patent. But, gentlemen, had he known that he was going to get into this trouble do you suppose he would have spent \$60,000 in the development of those claims? Would he have undertaken to build a mill for the treatment of ore which he had developed? There is but one answer to that question, and the fear that we may get into some trouble of that sort is, to my mind, preventing the development of many mining claims in the West.

Had Mr. Bolthoff found it necessary to raise money for this enterprise by the sale of stock he could not have raised the money, but if he had and the investors had lost their money the gentlemen who support and approve this federal interference would have raised their hands in holy horror at the iniquity of the dishonest promoter.

The present session of Congress is considering a bill for the leasing of mineral lands of the West. The Mining Congress has been on record in opposition to a federal leasing system within the states. It has done everything it could to prevent but it has not been strong enough to prevent the progress of these bills. The Alaska leasing bill has been passed, the leasing bill for the states is on the calendar and has been passed by one body and is now before the other, and there is but one hope that it may be defeated, and that is that through dilatory tactics Western senators may be able to prevent its final adoption. That is one of the things which, it seems to me, stands in the way of mining development. In line with what our good friend from Utah has said, the effort to administer public lands at this great distance by a machine which requires years to get into action, in my judgment will be found entirely inadequate. Mining men of the West take quick action when they go into business operations, and when they have to do business with a machine which cannot by its very nature, be moved inside of two or three years, it will necessarily delay mining operations in the West. Another proposition, which seems to me to be iniquitous, and on

which we ought to take strong ground, is the method required in securing a right of way over the public domain for a public utility. If a public utility needs a right of way over privately owned land, and the owner refuses to sell at a fair price, the utility company proceeds under the eminent domain acts to take possession of the land and in condemnation proceedings forces the private owner to surrender the right of way for what the court shall determine to be a fair price. You are absolutely prevented from bringing a similar suit against the federal government, because you cannot sue the government. Unless the government allows you by permission to have a right of way for a public utility you cannot get it. This condition was long since recognized by Congress, as it was provided in the original law years ago that "a right of way is hereby granted across the public domain"—and described the utilities which could take advantage of that law. In other words, the government didn't stand back at that time, under the old theory of the administration of the public lands, and say you must even condemn. All you needed to do was to satisfy the Secretary of the Interior that a public purpose is to be served and your right of way was granted without litigation. This supervisory power was given the Secretary of the Interior simply that he might see to it that your right of way and mine did not conflict; in other words, require you to file your plat in such a way that if afterwards I sought a right of way I would not conflict with yours, or in case the government should sell that land to some one else for other purposes it would be sold with the reservation of your right of way, and your description was required to be so definite that the reservation could be properly made. But in these days a different construction has been given, and now if a right of way across the public land is required for a utility it is not a matter of right. It seems to me that we should stand for the right of condemnation for a right of way across the public domain, and that the public domain ought not to be more sacred than the private holding of an individual. In my judgment this is one of the things which in future years is going to interfere very seriously with the progress and development of mining operations. I thank you, gentlemen.

MR. BASS: Mr. President, on those lines I would like to say a few words because it hits my case thoroughly. I at one time located a mill site down in Grand Canyon for the working of asbestos mines. I located it before it had been declared a national reserve. But shortly after that the superintendent of forestry on the north side notified me to meet him there. Of course I neglected my business and went down there to see him, but he didn't show up. But some days afterwards he did, and when I went down there afterwards I found that he had put up a notice prohibiting me from going on this particular mill site, because it was on a forest reserve, mind you, a forest reserve down in Grand Canyon where there is not enough timber for firewood—and also a national game park. I paid no attention to it at all. I wrote back and told him that my filings were all recorded and I considered I had a right there. He put me to a great deal of trouble and expense. The gentleman from Utah has hit the nail on the head and on the top of it and all over it, for the simple reason that when you come to leasing water power, the government plan of leasing it, means not conservation but confiscation. That is what it means. Now, we have heard a great deal about damming the Colorado. When you come to build a reservoir to irrigate all of Arizona, well, I do not believe you could place the stock of a company of that kind today among multi-millionaires, provided they knew anything about it. I know something about it. I know that when that river gets right mad and runs twenty miles an hour and brings down thousands of tons of all kinds of stuff, it would fill up any dam and preclude the maintenance of any power plant. But I do know that after a while if people understand the situation there you can cut a tunnel there that will confine that river at the west end of the Granite Gorge and make a water

power that I believe would turn half the world over, because you can get 120 feet fall by building a tunnel something like two miles, just cutting a tunnel through. Some years ago I took Mr. A. J. Chandler down there to investigate the water power. Now, this gentleman from Utah will bear me out in the statement that there is an immense body of timber over the Utah side of the Grand Canyon. That is the part of Arizona of which the gentleman spoke when he said if we were like those people who were in the habit of giving away their horses and watches and everything else we would give them. Well, of course, I am always fighting that, because I happen to know about it, and I think that unless Utah would be willing to give us their part on the other side of the river we will not give them what is on our side. I oppose it because there is a whole lot of good stuff on the east side of the river, as this gentleman will admit. There are two billion feet of merchantable timber on that side of the Grand Canyon that can be put on the market. Now, how long does it take to cut a billion feet of lumber? It would take quite a good while, wouldn't it? And yet I made that statement once before, and I believe somebody said there was nothing like that. I believe it was our senator from Flagstaff who made some such statement as that. You can develop all the horsepower you want from the water from those creeks up there; you can turn it over and over and over and use it as many times as you like. To tie up that land in the hands of the government as it has been tied up, looks too ridiculous, and when you go to get your permits they put a man over you to tell you what you must do, and that man doesn't know anything about the conditions.

Now, as to the tying up or the leasing of the public domain over there anywhere along the Grand Canyon in the granite section, I don't care where you go in the mineral region you will find the secondary forms of mineral. To tie it up, to lease it, would stop the development of it. There are thousands of acres of good land up there, too. I think there is a man here from Arizona, from the northern part, who knows that only a few years ago it was pretty hard to get a sack of potatoes up there, and I understand they have shipped down here to you people this season about 23 carloads. I am opposed to the leasing of the public domain because I am interested in the betterment of the small farmer. (Applause.)

MR. SIZER: Mr. President, I rise to ask whether the gentleman from Texas, who spoke this morning, has succeeded in finding his paper. If he has, I for one would very much like to hear it.

THE PRESIDENT: Dr. Phillips, give an account of yourself. One of us is going to be made out a liar, you or myself.

DR. PHILLIPS: I have been a more or less successful liar all my life. But three weeks ago I had a receipt from your Secretary, Mr. President, for the paper that I sent him on that subject.

THE PRESIDENT: You refer to the assistant secretary, I presume—who is not here?

MR. PHILLIPS: I think it was Mr. Wolcott who sent it to me; I don't think it was Mr. Callbreath.

SECRETARY CALLBREATH: Is Mr. Wolcott in the room?

DR. PHILLIPS: No; I wouldn't make the assertion if I thought he was here.

THE PRESIDENT: I knew it. This paper is going to be published in the proceedings, and the proceedings will be published very promptly, and we will ask your indulgence to wait until you see it there. Is there anything else to come before the session this afternoon? If not, I will declare the Congress adjourned until 9:30 tomorrow morning.

Meeting adjourned.

THURSDAY, DECEMBER 10, 1914.

Morning Session.

9:30 O'clock A. M.

(President Scholz in the chair.)

THE PRESIDENT: The meeting will please come to order. Gentlemen, there are several committees to report. There was a committee appointed to audit the accounts. Is that committee ready to report?

SECRETARY CALLBREATH: I have the report here, Mr. President.

(Auditing Committee's report read by President.)

Report of Auditing Committee.

Phoenix, Arizona, December 10, 1914.

We, the undersigned committee, appointed to audit the books of the Secretary of the American Mining Congress, have gone over the accounts and find the same to be correct.

(Signed) F. K. BRUNTON,
GEO. H. UTTER,
Auditing Committee.

A DELEGATE: Mr. President, I move that the report be approved. (Motion seconded and carried unanimously.)

THE PRESIDENT: The next item on the program is a report from the Committee on Resolutions. Are there any other reports to be presented this morning, Mr. Secretary?

SECRETARY CALLBREATH: No, there are no others, I think, except that of the Resolutions Committee.

MR. CARMICHAEL: Mr. President, your Committee on Resolutions having had under consideration Resolution No. 2, introduced by the Committee on Revision of Mineral Land Laws, do hereby recommend that the same be amended by substituting therefor the following:

Resolution No. 2, as Amended.

"Be It Resolved, By the American Mining Congress at its Seventeenth Annual Convention assembled at Phoenix, Arizona, that Congress be urged to pass legislation now before it providing for the revision of the mineral land laws of the United States."

THE PRESIDENT: That is a substitute for the original as submitted?

MR. CARMICHAEL: Yes, and I move that the resolution as amended by the committee be adopted.

MR. CLARK: I accept the amendment.

SECRETARY CALLBREATH: Mr. President, in view of the fact that the maker of the resolution accepts the amendment, it may be wise to assume that this amendment was introduced in this shape instead of as it originally stood.

MR. CLARK: The provision was recommended by the committee, and just merely to expedite the business was the reason I accepted it. I do not think the amendment really covers the ground we want to cover, but I thought I could get at that in some other way. But the point is, we have recommended there a certain kind of a committee, and we want an appropriation.

(Motion seconded and carried unanimously.)

MR. CARMICHAEL: Your Committee on Resolutions has had under consideration Resolution No. 4, and recommend that same be amended to read as follows:

Resolution No. 4, Introduced by C. H. Clapp, C. T. Willis and S. H. Worell, as Amended.

Whereas, The Congress of the United States of America has appropriated at various times the Morrill Fund of \$50,000, the Adams Fund of \$20,000, the Hatch Fund of \$15,000 and the Lever Fund of \$10,000 yearly to each state agricultural college, making a total of \$95,000 yearly; and

Whereas, The expenditures of the above sums of money have been productive of great advantage to the agricultural interests of the country; and

Whereas, No money has been appropriated at any time to foster and stimulate instruction in mining schools although approximately 50% of the above amounts are directly for instruction in agricultural subjects; and

Whereas, The total aggregate value of agricultural products is \$10,000,000,000, and the total value of mineral products is \$4,600,000,000, or 46%; and

Whereas, The importance of the industry is further reflected by the fact that approximately 60% of the freight hauled by the railroads is for the mining industry;

Therefore, Be It Resolved, That we, as representatives of the mining industry, ask the Congress of the United States to pass favorably a bill similar to the Austin bill, which provides that an appropriation of \$25,000 per annum be made to each mining school in the United States.

MR. CARMICHAEL: We recommend that the resolution be passed, and move its adoption.

(Motion seconded.)

SECRETARY CALLBREATH: May I say only one word on the resolution, Mr. President? Only to question the figures as to agricultural production. I have hoped for the opportunity to analyze the agricultural production statistics in such a way as to show the real truth. In the agricultural reports showing this enormous production we will find that hay is counted, and later on that hay is fed to cattle and the beef is counted and later the hides are counted. In many other lines you will find the report of the agricultural production of the country is enhanced by a duplication of the product, while in mining we are held right down to the actual production of the mine. When an actual comparison between the total products in the two industries is made the mining industry will come very much nearer equaling in production that which is reported for agriculture.

THE PRESIDENT: I live in Illinois, and I was much surprised in reading the reports of the Geological Survey of the enormous iron production of the state, and I began to look for an iron mine. I found that the iron referred to was that which came to Chicago by boat from Northern Michigan. So I guess the same condition applies to both industries. But I think it would be well to make an investigation anyway.

(Motion carried unanimously.)

MR. CARMICHAEL: Mr. President, your Committee on Resolutions having had under consideration Resolution No. 5, introduced by Mr. William B. Phillips and Mr. R. C. Allen, do hereby recommend that same be passed, and I move the adoption of the resolution.

SECRETARY CALLBREATH: This is a very important resolution, and in the appointment of a committee of three in each state the President will find a very difficult proposition unless the people from the several states who are interested in this matter shall volunteer to do their part of the work.

(Motion seconded and carried unanimously.)

MR. CARMICHAEL: Mr. President, your Committee on Resolutions having had under consideration Resolution No. 7, do hereby recommend that the same be amended as follows, and I move the adoption of the resolution:

Resolution No. 7, as Amended, Introduced by W. G. Swart of Colorado.

That the American Mining Congress, recognizing the necessity of carrying forward the movement for greater safety in mining, places itself hereby on record as in favor of the earliest possible adoption of a uniform national system of bell and danger signals, and urges the Bureau of Mines to take such action as will insure the accomplishment of this object.

(Motion seconded and carried unanimously.)

MR. CARMICHAEL: Your Committee on Resolutions recommend the adoption of Resolution No. 6, introduced by Mr. W. G. Swart of Colorado, and I move its adoption.

(Motion seconded and carried unanimously.)

MR. CARMICHAEL: That is all just now, Mr. President. We will have a few more resolutions later on.

THE PRESIDENT: While the Resolutions Committee are completing their work I am going to take the liberty of asking Dr. Holmes to come on the stage—not under the five-minute rule but under the three-minute rule. Not that we do not want him all day, but I would like to have the Doctor come forward and address the audience for just a few minutes, and I will appoint a committee to escort him to the platform. I will ask Mr. Dern and Mr. Brunton to serve upon that committee.

(Dr. Holmes was enthusiastically applauded as he ascended the platform.)

DR. HOLMES: Mr. President and Fellow Members of the American Mining Congress: It is certainly one of the pleasures of the year to meet with the mining men on occasions of this kind. The Bureau of Mines and its work is something quite young, having been established only in 1910, and therefore you might say that during the few years since that time it has been little more than well inaugurated. But there are always two conditions necessary in the accomplishment of a work of its kind. The first condition is to have money enough for the personnel, the proper men, experts, and for the equipment with which to do their work. The Bureau of Mines has today not a much larger appropriation than had the old technological branch under the Geological Survey several years ago. Since the Bureau of Mines was organized in 1910 there has been comparatively little increase in the moneys appropriated for the actual investigations of mining, consequently we have not been able to do the amount of work which we would like to have done. Our plans for the present year are in no way enlarged upon those of the past year. Now, that is a condition which is going to continue as it is now until the mining people of this country make up their minds to the fact that they are not being treated on the square. You realize this very interesting information brought out by the President in his address the other evening, that whereas every miner in this country

contributes something like \$1,800 a year to the national wealth, as compared to \$800 or \$900 contributed by every farmer of the country to the national wealth, at the same time the people of the United States contribute 28 to 30 cents per capita for the advancement of agriculture and less than 2 cents per capita to the advancement of mining; that in spite of the fact that mining is the most hazardous of our great industries and agriculture is the safest; that in mining we have one lot of mineral resources and that when they are gone the nation must depend upon something else or some other country, whereas agriculture is a self-perpetuating industry. Why is it that it is so difficult to get anything done out of the federal or state treasury on behalf of mining? And the first reason which I found in talking with members of Congress is the fact that when you talk to them about helping mining what they see is the Homestake and the Treadwell and the United Verde and half a dozen great, big mines in the country, and they say, "Why, those fellows are rich enough to take care of themselves." They don't see the small mines of the country; they don't see the struggling miners who are trying to build up a great industry, and the reason they don't see these things is because they are not presented to them; and in that connection I want to emphasize one of the most important lessons for this session of the Mining Congress to learn thoroughly, and that is that until the mining people of this country do what the railroad companies of the country are doing, educating public sentiment as to what this great industry is and what it means to this nation, the people of the United States will never understand it. You know for many years the railroads followed the policy of doing what they called quiet work. They endeavored to control legislation by interviewing on the side important politicians. Now they have found that that is a sort of thing that the American public is rebelling against. That is the sort of thing which at the present time won't go, and they have found it to be the case. No class of people in this country became so much and so thoroughly suspicious as were the railroad men. Now, what they have done was to decide on another policy. They have come squarely out into the open. They have organized, as was told you here the other evening, a bureau of railroad economics, a bureau of information which they support in Washington. That bureau has done so much good to the railroads that it has brought about recently a rehearing before the Interstate Commerce Commission on the rate question, and in many ways it is securing fair treatment for the railroads, and just as soon as the mining interests of this country all pull together—and the American Mining Congress is the best organization through which they can pull together—in my judgment they will educate public opinion in this country so that unjust taxation and unfair legislation which will endanger the industry will become an impossibility. One of the most encouraging evidences of this fact is that within the state of Missouri, within the past few months, we have seen the recall of the obnoxious legislation which was popular in its day with both politician and voter, but when attention was called to the real situation, how it was injuring the public and injuring the private property and the great railway lines, the people of the state of Missouri recalled that legislation, and they will be fair to the mining industry and they will support the mining industry and will treat it justly and fairly for all time if the mining people of this country will get together and pull together, educate them as they ought to be educated and give them information in which they have real confidence.

I thank you very much for this opportunity to speak to you, and I am very glad to be here with you, and have enjoyed my association with you since you have been in Phoenix. (Great applause.)

THE PRESIDENT: Gentlemen, it is a rare pleasure indeed to have Dr. Holmes with us and to hear his remarks. He has done a great deal

for our business, as we all know, and we owe him a great deal; more, I think, than we will ever be able to tell him.

SECRETARY CALLBREATH: Mr. President, I desire to announce the election of officers by the Board of Directors at their meeting last night, as follows:

For President, Carl Scholz.

For First Vice President, Harry L. Day.

For Second Vice President, M. S. Kemmerer.

For Third Vice President, George H. Dern.

For Secretary, J. F. Callbreath.

The Executive Committee elected is Messrs. Carl Scholz, Charles S. Keith and Walter Douglas.

In addition to that, the Board of Directors exercised the privilege given under the by-laws to create an honorary life membership. The directors are limited by the by-laws to one each year, and I might say this is the fourth time this privilege has been exercised in the seventeen years of the life of the Mining Congress. The Board of Directors yesterday conferred that honor upon Dr. James Douglas of New York.

PRESIDENT SCHOLZ: Gentlemen, I would be very remiss if I did not express my gratification over my re-election as President of the Congress. Frankly, when I entered the committee room last night I had hoped that the directors would say, "Well done, thou good and faithful servant," but, on the other hand, they said, "If at first you don't succeed, try, try again. Don't be discouraged," and they have handed you another lemon. I saw one down the street last night that weighed $2\frac{1}{2}$ pounds. I tip the scales at 157. You can figure out the ratio. A year ago I was elected president because I had "put it over" on the coal men. I then had in mind the adage which emanated from our great statesman, Mr. Lincoln, who wisely said, "You can fool some of the people part of the time, part of the people all of the time, but you can't fool all of the people all of the time." I think I have beat him to it. (Laughter.)

Since this is the last session of the Congress I feel that I should voice the sentiments of the delegates and the visitors who have been here by thanking the Committee on Arrangements and the citizens of Arizona, and, more particularly, of Phoenix, for the very cordial welcome they have given us and the very courteous and delicate way in which they have carried it out. I travel more or less and have been in any number of civilized and a great many uncivilized sections, but never have I found a place which I liked so well as I like Phoenix. I was impressed when I came with the magnitude of the desert, with the miracles wrought by the waters, with the wonderful buildings and streets; but most of all I have been impressed with the people, and those of us who have to return to the frigid climes—frigid in more ways than one—will miss Phoenix very much, and I want to convey to the Reception Committee, to the governor who received us, and the various officials, the mining kings, the consort of the "Copper Queen" and others who have made our stay so pleasant here, the very heartfelt thanks of the Congress, and I am sure that every delegate will join me in this. (Applause.)

What is the next thing you have on your desk, Mr. Secretary?

SECRETARY CALLBREATH: I presume, Mr. President, the Secretary also ought to acknowledge his gratification at his re-election, and I think the comparison between the $2\frac{1}{2}$ -pound lemon and the 157-pound lemon, while entirely inapplicable in the case of the President, might well be applied in the case of the Secretary. At any rate, gentlemen, I intend to perform the duties of the office as best I may during the coming year, but I want to impress upon you that work of this kind is

work that cannot be done by one man or two or three or a dozen men. The work must be a unanimous uprising and demand on the part of all of the mining men of the country. Unless there is that hearty cooperation, unless each of you feels that the work of the Secretary, the work of the President, the work of all of the officers, is work in which you are directly interested, we will not achieve complete success, and when you see that we are making errors we want you to call our attention to it, because remember always that to the earnest official honest criticism is always the highest compliment and the best aid. Whenever your officials are not doing what they ought to do it is your province to call their attention to it. You may be mistaken, and when you have made your criticism it may be explained to you why you are wrong and why the work as it has been done is best, under the best conditions. You cannot help but understand that in dealing with other people we have sometimes to accept compromises. It is not within the province of any one or all of us to attempt to dictate to Congress. We cannot even attempt to dictate to one single congressman and do it successfully, because we may not know exactly the surroundings under which he is forced to act, and we have to do the best we can. I want to say that I deprecate the feeling which seems to prevail in many sections that members of Congress and senators and public officials are corrupt or subject to improper influences. As a matter of fact, the men who go to Congress are, generally speaking, the very best men that can be selected. Some mistakes are made but usually the best men are elected. On the whole the average of the integrity and honesty of the members of Congress and the Senate is of the highest order, and therefore, if we can only convince them that our cause is just we are able to get their support. We must remember, further, that to convince every member of Congress that a certain thing is important and should be done does not pass a bill through Congress. It is only in some great emergency in which the public rise up en masse and demand legislation that it is possible to pass a bill within several months in Congress, and every congressman is yielding to the force of public sentiment which is behind him to get the best thing he can for his constituents. Unless you as mining men present your cause in convincing way you cannot expect members of Congress to leave matters on which they are being crowded to take up questions for which there seems to be no public demand. If we expect Congress to yield to our wishes we must not only convince them that we are right, but we must convince them that the great public back of them, their constituency, demand the things that we seek. It would probably take six months even though there was no objection on the part of anybody to get Congress to indorse the Lord's Prayer or any other thing which they thoroughly believed in. It requires a little pressure all the time to keep them up to the rack, to see that they do not forget, because they must necessarily do the things which come to them with the greatest demand. This shows the great necessity of organization through which every section of the country may push and urge upon its member of Congress and its senator the necessity of the particular legislation which we recognize to be so important.

I want to say a word concerning the Kern-Foster bill. This is the bill which is provided for in one of the resolutions which you have approved providing for the creation of metallurgical research stations in the West and providing for greater means of safety, with particular reference to coal mines. I presume it is true that the average loss of life in precious metal mines is as great as in coal mines. This is not generally recognized, because of the fact that in metal mining there are usually but one or two men injured at a time. In coal mining the horrible disasters command the attention of the public. The rescue car is for the protection of the lives of miners in all kinds of mining. The metallurgical research stations are especially for the benefit of the

Western precious metal mining, and when we are able to induce the leader of the Democratic Senate from an Eastern state, who knows nothing about and has no interest in precious metal mining, to father the bill for your benefit and urge its adoption in the United States Senate, and when we are able to secure an Eastern member of Congress who has nothing to do with metal mining and no personal interest in it to introduce that bill in the House and get back of it with his committee, you can see that we have gone a long way towards getting that support which is necessary to secure legislation. But we need more than that; we need to show that there is a real demand for this. And, gentlemen, we must not ask upon the theory that the mining industry, because of its importance, is entitled to it. It is all right to say that, but we must ask for it because the mining industry needs it, and unless the mining industry can show its need then it is not entitled to ask for this legislation. Congress is not there to pay tribute to people who have been successful. It is there to help the development of those industries which are basic in the business life of the country. We must show to Congress that the mining industry needs the investigations which will enable the small miner to prosecute his work successfully. If we can show them that the development of a certain ore body is important to the public—and we must never lose sight of the fact that the question is not how it affects you as individuals but how it affects the country as a whole—if you as an individual cannot make your mine successful, and if there is no demand on the part of the public that you shall be successful, then it is a proper suggestion that you go into some other line of business; but if the production of your mine furnishes the basis of the industry and prosperity of the country, then every man in the United States is interested in that development. We must show that you as a miner need this scientific investigation to enable you to carry on your work effectively, efficiently, with the greatest safety to the men employed in the underground work, with the cheapest production which is possible, and at the same time the best conservation of those natural resources which you did not create and which were placed there for the benefit of the world. Safety, Efficiency, Conservation are the three watchwords of the American Mining Congress, and it is hoped that by co-operative effort on the part of the mining men of the United States these things may be accomplished. As has been said this morning, we must not expect that we can go around and buttonhole a member of Congress and pull him aside and by some improper or secret method induce him to be with us. We must lay our case before him with the utmost publicity, and we must do that not only in the nation but in the state. We must take our legislators into our confidence and show them that the public is interested in the business as well as we are. We are interested in making a profit; you are interested in this development and in the men we employ, and the men themselves are interested in receiving the highest wages consistent with the conditions of the business. So we must work together, and I hope the day may come when this conflict between employer and employe will cease, because the highest development of the mining industry can never be secured until the mine worker and the mine operator work squarely together for the best safety, the best working conditions, the best living conditions and the highest wages that are possible to be paid taking other interests into consideration. The mine operator is entitled to his profit and he is entitled to a profit in proportion to the risk which he assumes in the carrying out of his business. That profit must be enough not only to pay current expenses and to cover this risk, but to cover the value of his mine, which sooner or later will be depleted. During the time of its operation the mine and plant must be paid for from the proceeds. Having met those two conditions, the third thing is that the consumer is entitled to the product of the mine at the lowest price which it is possible to furnish it to him for, having cared first for the

miner and the operator. When we have reached the condition where there is a most perfect co-operation between miner and operator and where the great public outside, which are the consumers of the products of our mines, are willing to say, "We will pay an increased price for this product because we know that unless the mining industry is profitable we cannot be prosperous; we are willing to pay a price which meets all these other conditions and makes the mining industry profitable," we can say that we have succeeded in our work.

The Kern-Foster bill provides for the creation of metallurgical research stations in the West. It is the first long step toward an effort to apply to mining the highest scientific knowledge which the world possesses. It may be and probably is true that you know today more than anybody else does about your own mining operations. But some man—and there are today a number of men who have been dubbed "bug hunters," who can go into a plant of any kind, not necessarily a mine, in which the best methods are not in use and point out different plans of operation through which better efficiency can be secured. We want the Bureau of Mines to pursue such investigations, and we want to have them show us the better and more efficient methods of operation. I remember some years ago when we were in the Bureau of Mines fight in Washington, in the early days, Mr. Thomas F. Walsh, who was known to many of you, invited a number of senators and representatives to his house to a dinner. There were about forty members of Congress, and probably about twenty senators, and the others, excepting the speaker, were more or less distinguished men. At that meeting Mr. Walsh had upon his table a large specimen of what looked like a silver-lead ore. Mr. Walsh said: "Gentlemen, you will excuse me for talking shop in my own home and to my guests, but I can't resist the temptation to present to you just one illustration. This piece of ore is from a mine that has been in operation for fifty years. During that time it has been utilized for its lead and silver contents only. It has recently been discovered that its greatest value is in wolframite, which is worth more than the lead and silver combined, and during the last fifty years that ore has been treated only with reference to the two other minerals." Some one might say, "Well, who cares for this man if he didn't know enough to get his values?" But the other feature of it is that the use of that wolframite would greatly extend the life of the rails which are used by our railroads. The railroads must charge a freight or passenger rate which would keep up their road, and do you not see where you become interested. It is a proposition that concerns everybody, and it concerns the individual miner who is operating in the mine. Now, it was only by accident that the presence of wolframite in that ore was discovered. We believe the federal government ought to undertake on a broad scale the solution of every problem of that kind to the end that the highest efficiency may result in the operation of the mining industry, and to that end we want your support to pass the Kern-Foster bill. It provides for a beginning of that work, and I hope that we may have from those assembled here and from their friends as they go back home and from the country at large a demand that this bill shall be made a law during the present session of Congress.

I thank you, gentlemen, very much for your kind attention. (Applause.)

THE PRESIDENT: To fill out the time while we are waiting for the Resolutions Committee, I would like to make one brief remark on the duties of the delegates, which I brought out in my address—that the duties of delegates are not ended by coming to Phoenix and attending the sessions and participating in the entertainment, of which we had a very good example last night. Those are merely the stage settings. Your work is upon your return to your homes when you should report to those who sent you here the work of this Congress and commend it

to them so that they may be interested and know that they sent you with good results. I urge upon you that upon your return you write a strong letter to the governor or the respective authorities, who sent you here and tell them what you found and commend to them the work of this Congress. (Applause.)

MR. CARMICHAEL: Mr. President, your Committee on Resolutions having had under consideration Resolution No. 3, introduced by L. S. Judd of Vicksburg, Arizona, respectfully recommend its adoption as amended.

Resolution No. 3, as Amended, Introduced by Mr. L. S. Judd, Vicksburg, Arizona.

Whereas, It has come to the attention of the American Mining Congress that sundry mining claims on Indian reservations in the states of Arizona and New Mexico are unable to obtain title to their property by reason of conflicting surveys made many years since covering the boundaries of the above mentioned Indian reservations; now, therefore

Be It Resolved, That this Congress respectfully request all Western congressmen and senators to support and expedite the measure now under consideration for the relief of those suffering by reason of the existing conditions.

MR. CARMICHAEL: I move the adoption of the resolution as amended.

(Motion seconded and carried unanimously.)

MR. CARMICHAEL: Mr. President, your Committee on Resolutions submits the following resolution for consideration and I move its adoption:

Resolution A, Introduced by the Committee on Resolutions.

Whereas, The American Mining Congress was originally created for the specific purpose of securing the active co-operation of the federal government in the development of the mining industry; and

Whereas, The first step looking to such co-operation was made effective by the creation of the federal Bureau of Mines; and

Whereas, The results accomplished by that bureau have been such as to commend themselves not only to the mining men of the country, but to all those who realize that safety and efficiency in operations and conservation of the nation's resources are matters of vital importance to the nation as a whole; and

Whereas, The means at its disposal are inadequate for the proper conduct of its affairs and for the execution of well considered plans;

Therefore Be It Resolved, By the seventeenth annual meeting of the American Mining Congress, assembled at Phoenix, Arizona, December 7th to 11th, 1914: That the Congress of the United States be urged in the most earnest manner to provide immediate and more adequate support for the said bureau.

And Be It Further Resolved, That we urge on the Congress of the United States the enactment of a law providing for the creation of a department of mines and mining with its head a member of the President's Cabinet.

That a copy of this resolution be transmitted to Congress by the President and Secretary of the American Mining Congress through the proper channels at once.

(Motion seconded and carried unanimously.)

THE PRESIDENT: While the Committee on Resolutions is performing the rest of its work I would like to amend the statement I made a while ago regarding the reports of the delegates, that the delegates who have been appointed by the President of the United States will prepare a report to be sent to him, and I am going to ask Dr. Phillips, the gentleman who quoted the Bible so freely last night, to act as chairman of that committee. Incidentally, I feel it proper to inform you that he made a mistake, I think, when he referred to books, chapters and verses last night, because I have looked it up in the book which the Gideons have left in my room, and I have concluded that he must have referred to the mining code which is yet unpublished and not to the Bible (Laughter), which caused me more or less loss of sleep.

DR. PHILLIPS: I feel particularly grateful, Mr. President, that through any effort of mine, even though they were not intended, you have been induced to read a portion of the Holy Scriptures. (Laughter.)

MR. BASS: Mr. President, I would like to take this opportunity to express my personal appreciation of the able manner in which the officers of the Mining Congress have conducted the business of the Congress, and I think we ought to be proud to think that we have such officers; and not expressing the feeling of the people of Phoenix particularly, but of the whole state of Arizona, I believe that every citizen will feel proud that we have had the honor of this Congress.

Now, our worthy doctor here, I think, is entitled to consideration for that address we had last night, because he probably has not had a chance lately to look into the Scriptures, and I don't think you ought to call him down on that, Mr. President, at all. I enjoyed it very much myself.

I heard a statement here the other day by one of the members that he thought that Arizona mountain land wasn't worth anything only for mining; that if it wasn't good for mining it wasn't good for anything else. I felt like getting up and making the statement then that I believe we can build sanitariums on every acre of it, and when our Eastern friends need the benefit of a health-giving climate we can keep them out here for six months and they never will want to go back. When I first came here I was an invalid. I came out here to die, and have been here thirty-one years. I wrote a little advertisement of our climate and for the benefit of our members I will give it to you:

If your health should fail and your pulse grow weak,
And your doctor advises you some clime to seek,
Do not be discouraged nor sit down and cry,
Arizona will save you, with her climate so dry.

Our pure air will revive you, sunshine give new life
And strength to prepare you for all future strife;
But then we are mortals and surely must die,
And in our blissful climate you can hang up and dry.

(Laughter.)

MR. SIZER: Mr. President, I believe the delegates here this morning would like to hear from Mr. Frank Murphy.

MR. MURPHY: I think it is hardly fair to ask me to stand up in the presence of many able gentlemen who have talked to you here at this convention. It has not been my privilege to be with you all through, so I am not thoroughly advised. I have, however, formed some impressions from the little that I have heard that lead me to feel greatly encouraged so far as the mining interests of Arizona are concerned and the general business interests in our state. Arizona has suffered materially and all the United States has suffered from a lack of serious

interest on the part of business men in the politics of our country. Arizona is not altogether a mining country, though manifestly rich in that particular; but we have great agricultural possibilities, and there is a conflict of political interest and ambitions running through this state that have brought about us a very unpleasant condition of things, very injuriously affecting the interests of our state. I believe from what I have heard here in the day or two that I have been with you, and the talks that have been made, and from conversation with different parties, that a movement is on foot by which the big and little interests of our state are going to take hold of these important matters, and that great good will result. I am particularly anxious to see something of the kind take place, and if the disposition in evidence is properly directed, I would expect to see Arizona move ahead with leaps and bounds gratifying to all people interested in the state, and neighboring states as well. The justification and importance of prompt action towards the bettering of conditions in this state, has been thoroughly brought to your attention. I do not know of anything in particular that I can say at this time. The subject under consideration has been gone into very carefully and appreciatively, by those fully qualified to determine the line of procedure necessary. I have lived here for thirty-eight years, and been somewhat identified with development of the resources of the state, and naturally feel a great interest in its future.

I am sorry to have to say that during the past few years the radical political epidemic that has been so hurtful throughout the entire United States, fastened itself on Arizona in the most destructive way imaginable. Scheming politicians, never constructive, living off of what has been created, taxing everything now existing and prospective to the limit, and mischievously working hardships on those who have been conspicuous in the development of the resources of the state, have been able to deceive the wage-earner and thoughtless business man generally, to an alarming extent, but I am pleased to be able to feel that a change for the better confronts us. I think the time has arrived for the politicians of the country to get busy and use such brains and intelligence as they possess, in at least trying to create something to tax, instead of throwing all kinds of obstacles and objections around the people who are doing business, and producing the wealth of the country, maintaining pay rolls and trying to create a healthy and prosperous condition throughout the country. (Applause.)

THE PRESIDENT: We will be glad to hear further from the Resolutions Committee.

MR. CARMICHAEL: Mr. President, right in line with the remarks of the last speaker, the committee submits the following resolution for consideration by the Congress:

Resolution No. B, Introduced by the Committee on Resolutions.

Whereas, The mining industry can only reach its highest development through more complete co-operation between the miner, the operator and the various interests through which mines are developed and the products thereof are prepared for and transmitted to market; and

Whereas, The present condition of the mining industry is such that all unnecessary restrictions should be removed and every aid and encouragement be given through just and farsseeing legislation; and

Whereas, The development of the mining industry has at times been greatly hampered by unwise and illy considered laws, placing thereon unfair restrictions and undue burdens which have seriously hampered the industry as a whole.

Whereas, Many of these unfortunate laws have been passed without a comprehensive knowledge of conditions; now, therefore,

Be It Resolved, By the American Mining Congress in its Seventeenth Annual Convention assembled at Phoenix, Arizona, that all connected with the mining industry be urged to take a more active interest in proposed legislation, and through proper organizations or otherwise, see that all legislators and the people generally are given full information as to the experience of other states with legislation similar to that which may be proposed, and be given all available information which may lead to an accurate forecast of the effects of such proposed measures.

MR. CARMICHAEL: I move the adoption of the resolution.

(Motion seconded and carried unanimously.)

DR. PHILLIPS: I do not wish to impose on my Arizona friends, because I am an old Arizona pioneer myself. I was in Arizona many years ago with a diamond drill outfit which I carried in on a pack mule across the range. It was about the time that the great discoveries of oil in California and Beaumont induced us to discontinue our work, because coal could not at that time compete with oil.

Gentlemen, with the permission of the President and in your interest, I would ask to speak a few words concerning the director of the Bureau of Mines. I suppose I am his oldest friend here, because I have known him intimately for about thirty-two years. I do not know of any man who has led a life of greater usefulness, nor one whose devotion to the public interests of this country can for a moment be compared with that of Dr. Holmes. I betray no secrets when I say that his health has failed under the tremendous burdens imposed upon him by the duties of this position. Last spring, contrary to the advice of his physician, he went to Alaska at a time of the year when the waters were still cold. He ate and slept very little. He worked twenty-four hours a day part of the time, and spent many nights sleeping in wet blankets or as he could. This has brought upon him a serious attack of illness from which his recovery will, I think, be somewhat slow. When I visited him a month ago at Fort Bayard I was distressed by his condition, but I am pleased to remark that now he appears to be on the upgrade. Gentlemen, I can recommend this man to you from a knowledge stretching over a third of a century. There are but few men in the United States like Dr. Holmes, the director of the Bureau of Mines (great applause), and I know what I am talking about, because I have known him intimately since he came to the University of California fresh from Cornell University as a recent graduate. There is not a man of my acquaintance who has shown half of the devotion to the public service or brought to the solution of the problems which he has faced for years so much intelligence, perseverance and insistence. He is one man among a thousand. Modest, kind-hearted, with a heart as big as all outdoors, he knows nothing but the public good. If he borrowed \$10 from you today he would spend it for the Bureau of Mines. He not only spends his own money but everything else he can get hold of. He is the most intemperate man I ever saw in my life; he has no regard for his health, his comfort or anything else but the work to which he has devoted his life; and I move you, Sir, that as an appreciation of his services this Congress go on record as expressing the utmost sympathy for him in his present indisposition, with the most heartfelt wish that he will soon be restored to complete health. (Applause.)

(Motion seconded and carried unanimously by a rising vote.)

THE PRESIDENT: Mr. Day is called upon to address the Congress on the general subject of the interests of mining.

MR. DAY: Mr. President, I must respectfully ask to be excused. I do not feel that I can say anything at this time that would be of interest to you gentlemen.

THE PRESIDENT: We will excuse you reluctantly.

MR. DERN: Mr. President, it has just occurred to me, after listening to the remarks of the gentlemen who have spoken this morning, remarks which conform to much of the sentiment expressed throughout this session, that there is one thought that we might take home with us, and that is that we seem to be getting into the habit of ascribing all of our ills to hostile legislation. In my judgment there is, if anything, too much stress laid upon that particular point. Our discussions have tended to convey the idea that the only thing that is the matter with the mining industry is that there have been a lot of bad laws passed. I do not mean to defend the legislation that has been complained of. I do not say that the laws have not been bad; but I do say that personally I do not believe that these laws are the sole cause of our troubles. And in my opinion we are laying ourselves open to the charge of being shortsighted and narrow-minded if we permit ourselves to become obsessed with this notion. The people of Arizona, the mining men particularly, seem to be finding a good deal of fault with some of the recent legislation in this state, and they have given us the impression, in some degree, that if they were rid of this obnoxious legislation, everything would be well with them. I never heard of this legislation until I came to this Congress, and I am far from denying that our Arizona friends have a grievance, but I should like to call attention to one point. Arizona is generally considered an extremely radical state, whilst Utah is characterized as an extremely conservative state. In Utah we have not had any of the radical legislation that we find so bitterly denounced here. And yet I venture to say that, on the whole, mining conditions in Utah are very much the same as they are in Arizona. Hence I say that if we look at the matter in a broad way we must conclude that there must be something the matter with mining besides these laws that have been passed.

One of the chief things that is the matter with mining just now, as we all know, is the low metal market, and that, of course, is a matter over which the states have no control, and consequently this is one of our ills for which legislation is in no wise responsible.

But I do not intend to take the time to attempt to say what is the matter with mining. Many valuable suggestions have been made on this subject during the present session. My general opinion is that "the old order changeth," that mining is getting upon a different basis than it used to be. The easy picking is all gone. The old method of going out on the hills and finding a mine, and developing it with small capital, is past. The country has been pretty well prospected over, and mining is entering upon a different stage. The scale of operations, the methods, the treatment of ores, and so forth, have got to be changed; and until the country adapts itself to these changed conditions there probably will be some hesitancy in mining development. For this reason I think we ought to remember that our chief function is not so much to criticize what we might term hostile legislation—although such criticism, of course, is perfectly legitimate—but we should be constructive in our views. We should endeavor to evolve measures that will meet the new conditions, and that, of course, is one of the very reasons why we want the Bureau of Mines more adequately supported and its scope of operations enlarged. That is the reason the Mining Congress has been so much interested in the Bureau of Mines; and I think we can do more for the mining industry by enlarging the scope of that bureau, and by helping to frame constructive legislation, than we can by adopting a dog-in-the-manger policy and simply kicking about everything else that is done.

I suppose it is true that there is a good deal of legislation that is ill-considered. I suppose some of the men sent to the legislature simply come back and say they have voted—something like the story I heard not very long ago of the old German who belonged to the Knights of

Columbus. He went back to his home town after a considerable absence and decided he would visit the lodge. Meanwhile they had built a new building with two or three lodge rooms in it. The building was pointed out to him, and he went upstairs, and got into the wrong room. The lodge was in session, but there was nobody at the door, so he walked right in. Just as he got in the door he saw a man at the head of the room, sitting at a table, rapping on the table with a gavel, and saying, "Brothers, step up and vote! Don't keep us waiting; we are in a hurry!" He walked up to a little table in the middle of the room and saw a box with a lot of black and white balls. He dropped in a white ball, and just then somebody hollered, "Who are you?" "What are you doing here?" and he said, "Who am I? Didn't I be a Knight of Columbus for fourteen years? Vy shouldn't I vote?" And they hollered, "Raus mit him!" When he told it afterwards he said: "Dey trew me oud, unt put a man py der door so I couldn't get back in again anymore. But anyhow I woted; but vat I woted for I don't know." (Laughter.)

I suppose that is the way some legislators work, and when they go home they can say, "Anyhow, I voted." But if they do not know what they voted for, is it not often our own fault? Do we always do our share to inform them? Perhaps not; and perhaps also, we do not always look at our own questions from a broad enough public viewpoint. Perhaps the legislator thinks a good deal the same way about us, that we come together in a Mining Congress, and in the course of three or four days dispose of a lot of big questions that specialists spend their lives upon; and we pass a lot of resolutions that we never heard of before and that we have only considered a few minutes; and then we go home, thinking that, anyway, we voted, though when we examine ourselves closely we must admit that what we voted for we know very little about. One of the chief benefits that we might derive from the American Mining Congress, especially now that a monthly journal is to be sent to all its members, is to educate us on these questions, so that we will be better equipped to consider them in a broad, fair spirit.

I think there are two sides to this question of cussing the legislator, and we ought to be broad-minded and charitable enough at least to give the other fellow credit for good intentions, even if we will not concede that he had good judgment. We should bear in mind that one's opinion of a question always depends upon his point of view. I believe the average legislator tries to do his duty, and I am very much impressed with the temperate tone of the resolution passed a little while ago, in which mining men were urged to interest themselves more in legislation. I think if we mining men would do that, instead of holding ourselves aloof from men in government positions, or from legislators, and would get into close contact with them, so as to give them the fullest information, and present our side of the case frankly, thoroughly and fully, we would find that the average legislator is willing to be convinced. (Applause.)

THE PRESIDENT: Gentlemen, it is with great reluctance that I am going to call for the introduction of the last resolution, which Mr. Carmichael has been withholding, and I want to thank the members for their patience and the kind consideration they have extended to me as presiding officer of this meeting. I know my own shortcomings much better than you can tell me, and therefore I greatly appreciate the help with which you have supported me in this work. It has been coming almost too easy to be true, and I expected much more opposition than we have had, and I thank you most cordially for the kind consideration which you have extended to me. We will now hear from Mr. Carmichael once more.

MR. CARMICHAEL: Mr. President, your committee presents the following resolution:

Resolution C, Introduced by the Committee on Resolutions.

Whereas, The success attending the Seventeenth Annual Session of the American Mining Congress, held at Phoenix, Arizona, December 7-11th, 1914, has been due in a great measure to the excellent arrangements made for the meetings and to the hospitality extended to the members of the Congress by the citizens of Phoenix.

Now, Therefore Be It Resolved, That the Congress hereby expresses its deep appreciation of the help and entertainment extended to it, and its hearty thanks to all concerned, especially the Phoenix Board of Trade and local committees, through whose untiring efforts is due largely the success of the meeting; also to the citizens of Phoenix generally, for the many courtesies extended to the members during their stay.

MR. CARMICHAEL: I move the adoption of the resolution.
(Motion seconded.)

SECRETARY CALLBREATH: May I suggest to the committee that much assistance was rendered in this work by some of the companies and cities outside of Phoenix, and I think they ought to be included in this resolution. If the chairman will consent that the resolution be amended so that it will read to the citizens of Arizona and——

MR. CARMICHAEL: This places me in a slightly embarrassing position, Mr. Secretary. Speaking more as an Arizona delegate, I am sure that the rest of the delegates and those in Arizona who have assisted towards making the meeting of the Congress a success, appreciate the sentiment which the Secretary has so gracefully expressed, and if the Congress sees fit to amend the resolution in such a way I am sure the rest of my committee will acquiesce.

SECRETARY CALLBREATH: I only make this suggestion because I happen to know that a good deal of the money which was subscribed to make this convention possible, was subscribed by outside people whose support was very important in making a success of the movement, and I feel that they ought to be recognized.

THE PRESIDENT: We all appreciate the delicate position of the chairman of the Committee on Resolutions. All those in favor of the adoption of the resolution as read will signify by saying aye. Contrary.
(Carried unanimously.)

THE PRESIDENT: The next order is the photograph to be taken outside, the visit to the mineral exhibit and the automobile ride, also the safety demonstration here this evening at 8 o'clock, and the business of the Seventeenth Annual Session of the American Mining Congress is now declared to be adjourned.

Convention adjourned sine die at 12 o'clock.

MEETING OF MEMBERS

TUESDAY, DECEMBER 8, 1914.

Evening Session, 7:30 O'clock P. M.

THE PRESIDENT: Gentlemen, you will please come to order. This is the annual meeting of the members. The first order of business is the reading of his report by the Secretary.

SECRETARY CALLBREATH: The report is as follows:

AMERICAN MINING CONGRESS

Secretary's Financial Report, October 1, 1913, to November 30, 1914.

Cash on hand October 1, 1913.....\$ 130.06

RECEIPTS.

Membership dues	\$ 3,493.90	
Membership fees	600.00	
Life memberships	1,500.00	
Special contributions	4,600.00	
Deficiency contribution	500.00	
Phoenix Convention contribution.....	5,000.00	
Reimbursement by Philadelphia Convention fund..	682.56	
Balance Chicago advertising fund.....	33.85	
Rebate on railroad ticket.....	4.30	
Miscellaneous	5.00	
Total receipts		16,419.61
Total to be accounted for.....		\$16,549.67

EXPENDITURES.

Secretary's salary, March, 1911-July, 1912.....	\$ 5,100.00
Rent Washington office.....	510.00
Stenographer	972.00
Postage	1,025.10
Printing	550.60
Multigraph and letter service.....	251.63
Office equipment	222.26
Secretary's traveling expense and incidentals Wash- ington office, including telephone and telegraph, stationery, District of Columbia taxes and extra stenographic service	1,385.88
Audit Philadelphia accounts.....	50.00
Rent Denver office.....	337.50
Exchange on deposits in Denver bank.....	28.45
Assistant Secretary's salary.....	800.00
Traveling expenses Assistant Secretary (including advances) account organization State Chapters and Phoenix Convention.....	1,042.15
Taxes, Denver	2.40
Commission and expense advertising 1914 Booklet..	810.37
Securing memberships	95.00
Refund of dues paid twice.....	10.00

Expense of previous year:

Secretary's expense account, April and May, 1913	\$302.15
Expense account Booklet, Philadelphia Convention	55.00

Total	357.15
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Total expenditures	\$13,550.49
Less advances by Secretary included in above for which he has not been reimbursed.....	88.61

Total payments	\$13,461.88
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Covered by National Metropolitan vouchers 1 to 59.	\$ 4,082.01
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Covered by First National, Denver, 1,299 to 1,353...	9,379.87
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	\$13,461.88
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Cash on hand November 30, 1914.....	\$ 3,087.79
On deposit as follows:	
In National Metropolitan Bank, Washington....	\$ 1,017.99
In First National Bank, Denver, Colo.....	2,049.80
In office	20.00
	\$ 3,087.79

ADDITIONAL RESOURCES.

Accounts Receivable:

Advertisements in Phoenix Convention Booklet.....	\$ 2,470.50
American Tempering Co. (Philadelphia Exposition).....	15.00

LIABILITIES.

Half-tones and cuts, 1914 Booklet.....	\$ 41.10
Printing 1914 Booklet.....	522.61
R. L. Humphrey, director Philadelphia Exposition:	
Balance claimed due for service.....	\$571.40
Less paid by Secretary.....	25.00
Less charge for photographs.....	15.00
	531.41

Due Secretary:

Balance on expense vouchers to Nov. 1, 1914.....	88.61
November expense voucher.....	182.17
Salary August, 1912 to November, 1912— $\frac{1}{3}$ year at \$3,600..	1,200.00
Salary December, 1912, to November, 1914—2 years at \$6,000	12,000.00

Respectfully submitted,

J. F. CALLBREATH, Secretary.

We hereby certify that we have examined the cash book, vouchers and bank accounts of the American Mining Congress as kept by J. F. Callbreath, Secretary, and that the foregoing financial statement of receipts and expenditures is correct as set forth in said records.

The statement for November of the account in the First National Bank, Denver, Colorado, is not yet at hand, but the statement showing balance November 1, 1914, was found to be correct.

Respectfully,

HARVEY S. CHASE & COMPANY,

By HOWARD C. BECK, C. P. A., Local Manager.

Washington, D. C., December 1, 1914.

SECRETARY CALLBREATH: I might say that the item of \$88.61 which appears as a liability was a mistake in the footing of my personal expenditures, my footing being that much less than the actual amount, which was discovered by the auditor in his examination of the accounts. I must confess that the auditor has convicted me of being a very poor bookkeeper. The receipted vouchers are accompanied by the cancelled checks with which the payment was made during the time covered by the report. I think that everything is available here for an examination of the accounts. Up to this year, we have always had an Auditing Committee which has gone over the accounts monthly and audited the bills. For the past year this has been practically impossible because the only members we have in Washington are in official life who could not undertake to audit the bills, and as most of the business has been done in that office during the past year, or practically all of it, it has been impossible to have anybody there who could audit those accounts. It has been necessary for the Secretary to go ahead and transact the business. I turn over the vouchers and books, and I ask, Mr. President, that a committee be appointed to audit these accounts. For several years heretofore I have asked for the appointment of an Auditing Committee, and the convention has never granted the request, upon the theory that an Auditing Committee, having already gone over and approved each of the bills, further accounting was not necessary other than the examination by an accountant. I feel now that, in view of the fact that no one has approved any of these bills during the year, there ought to be an Auditing Committee appointed to go over the account.

THE PRESIDENT: I will ask Mr. George H. Utter and Mr. F. K. Brunton to act as Auditing Committee and take these accounts and go over them and report back to us what they find.

MR. GERALD SHERMAN: Mr. President, I move that the report be accepted as read.

MR. F. H. O'BRIEN: I second the motion.

THE PRESIDENT: Without the auditing?

MR. SHERMAN: Yes.

(Motion seconded and carried unanimously.)

THE PRESIDENT: The next item of business comes under Section 3 of Article 5, consisting of the selection of a Nominating Committee. That section reads as follows:

For the purpose of facilitating the selection of Directors, there shall be elected at the annual meeting of the members, a committee of five members to be known as a Nominating Committee, whose duty it shall be to present to the members for their consideration the names of such persons as such committee may deem advisable to act as Directors for the ensuing year.

MR. IMER PETT: Mr. President, I take pleasure in nominating Mr. Arthur Thomas of Utah.

THE PRESIDENT: Are there any other nominations? There should be five names.

MR. DAY: I would like to place in nomination the name of Mr. Seeley W. Mudd of California.

MR. DERN: I would like to nominate Mr. W. G. Swart of Colorado.

MR. O'BRIEN: I would like to put in nomination Mr. Gerald Sherman of Arizona.

MR. TALMAGE: I nominate Mr. George H. Utter of New Mexico.

THE PRESIDENT: Are there any further nominations, gentlemen? (No response.) Since no further names are forthcoming the nominations will be considered closed.

(The candidates placed in nomination were unanimously elected.)

SECRETARY CALLBREATH: Mr. President, it has been suggested by quite a number of the delegates that we may be able to finish our business and adjourn on Thursday night, finishing up the work of the Resolutions Committee, instead of having them report again on Friday morning. I think it would be wise to take the sense of the members as to whether they would like to have the business so arranged as to finish Thursday night or to go over until the Friday morning session.

THE PRESIDENT: The chair will be glad to entertain discussion on that subject. The program for Friday morning is short, and as a good many prefer to leave on Thursday night rather than Friday morning, I would be glad to have the sense of the meeting on that point. Are there any suggestions?

MR. JESSE KNIGHT: I move that we finish up on Thursday if possible.

(Motion seconded and carried unanimously.)

SECRETARY CALLBREATH: I would like to make one suggestion to the Nominating Committee, and that is, that in making their nominations they so arrange that there will be two directors at the same place or so near each other that it will be convenient for them to get together as the Executive Committee in order to transact the business of the committee. As you understand, in an organization of this kind, with its directors scattered from one end of the country to the other, must have its executive power lodged somewhere, and it is necessary that the Executive Committee, under our by-laws, can meet, because our directors can very seldom get together except at the annual meetings in sufficient numbers to constitute a quorum. The Executive Committee under our by-laws is authorized to act on behalf of the Board of Directors, and our custom has been that when a new matter needing the approval of the directors comes up it is submitted to them by letter, and their letter-vote upon that subject is turned over to the Executive Committee, which has the legal power, under the by-laws, to make effective the suggestion or recommendation of the members of the board. It is necessary to have two men who can conveniently get together to make effective the recommendations of the Board of Directors.

MR. SHERMAN: I would like to know if there are any particular rules for the nominations. Are the nominations of the Nominating Committee to be final, or are the members at liberty to add other members to the nominations?

THE PRESIDENT: Other nominations will be put to the house and voted upon in the event any nominations made by the Nominating Committee are not acceptable.

I believe the next business in order is the amendment of the by-laws. I will ask the Secretary to read the proposed amendment to the by-laws.

SECRETARY CALLBREATH: Our by-laws are amended by thirty days' notice to each of the members and then by vote of the members thereon. The following amendment has been proposed:

That Section 1 of Article 3 be amended by striking out the whole of said section and substituting in lieu thereof the following:

Section 1. There shall be three classes of members, to be known respectively as **Active Members**, **Subscribing Members**, and **Associate**

Members. Active Members alone shall be eligible to hold office and Active and Honorary Members alone shall be entitled to vote.

Active Members. Any person associated with mining, whose application for membership has been approved by the Committee on Membership, and who shall pay an initiation fee of \$15 shall become an Active Member of this Congress and thereafter shall pay in advance an annual fee of \$10; and during the term for which said dues have been paid, such member shall be entitled to all the rights and privileges of membership.

Subscribing Members. Any corporation or organization or co-partnership actively engaged in or interested in mining may, with and by the approval of the Committee on Membership, be admitted as a Subscribing Member upon such terms and conditions as the Board of Directors may determine. Such Subscribing Members shall not be entitled to vote, but shall be entitled to receive all of the publications of the Congress and to receive abstracts of all data, statistics and legal or technical information which may be in the files of the Congress, and to have such special reports covering inquiries as may be made from time to time and which the Secretary or his assistants may be able to furnish concerning any matter upon which the Congress may have special information. The membership of Subscribing Members shall continue only during the term for which the dues of such member as fixed by the Board of Directors, has been paid.

Notice of this proposed amendment was mailed from the Washington office November 7, 1914, to all of the members.

THE PRESIDENT: You have heard the reading of the proposed amendment to the by-laws. What is your pleasure? Is there any discussion on the subject?

SECRETARY CALLBREATH: I might say, Mr. President, that of the members who have voted by letter-vote there are 372 votes; two have been cast against the proposed amendment and 370 in favor of it. These votes in nearly every instance are in favor of the proposed amendment, with any amendments germane thereto, so that in case it is thought wise to amend this proposed amendment by any slight change it would be in order to have it done and these 370 votes still count in favor of its adoption.

THE PRESIDENT: What is your pleasure, gentlemen, with regard to this amendment? We would like to have some discussion or motion on the subject for or against.

MR. E. L. WOLCOTT (Assistant Secretary): Mr. President, while the amendment, to those of us who have studied this question, is very plain, I have talked with some members who do not understand the gist of it. I would like to ask that the Secretary go a little more into detail and analyze it, as it were, so that the delegates present will understand just why we are endeavoring to bring about this kind of an amendment.

MR. PRESIDENT: We will hear from the Secretary.

SECRETARY CALLBREATH: Mr. President and Members: I am afraid I will be obliged to anticipate something I had expected to say later in the evening under the general discussion. The plan proposed is for the purpose of having a larger membership. There are many people who feel like contributing to and supporting the work in the localities but who do not feel like paying the amount of dues which is necessary to be an active member of the Congress. It is proposed to increase largely the membership, both for the purpose of keeping in touch with the Washington work, through the local members, who can be called upon to assist when there is something which needs outside support, and again, that they may have strong working chapters within

the various states. It has been desired for a number of years that we should create state organizations, because while it has been important that the legislative matters at Washington should be looked after, it is equally important that legislative matters within the states should be looked after on behalf of the mining industry. I think the mining condition, as you who are in Arizona know, points clearly to the necessity in all of the states of a strong working mining men's organization which shall see to it that legislators, when they undertake to legislate on behalf of the mining industry, shall understand the conditions and shall understand what certain legislation means. In this state I am told you have a law which will practically close down some of the mines because it prohibits the employment of men who are not citizens. As your President said to you last night, legislation of this character is sort of catching; one state passes a law which appeals to a vicious or selfish minority, and people of that same caliber in the adjoining states, selfish or vicious as the case may be, undertake to pass similar legislation, possibly not for the benefit of the state but in order that they may appeal to the populace as being heroes in their behalf; so that in all of the states we have bad legislation, and the fact has been pointed out today in the discussion of mine taxation is quite generally true, that no two states have the same theory of legislation. In one state you assess your property upon one basis and in another state upon an entirely different basis. In Colorado our tax law provides that assessments upon mining property shall be at its full cash value plus all of the net output and one-half of the gross output. In Arizona you have a similar law, except the ratios are different. Now, the ratio which is right in one state is right in another state, and one of them is certainly wrong as applied to the same character of mining. Proposals are being put forward in the several states by people who do not understand the business and do not realize how much hardship it will entail, do not realize how much of a burden is going to be put upon the industry and how much of that burden will fall directly upon the people whom the legislation is supposed to benefit. So that it is necessary in each of the states that we have strong working organizations. The proposed plan is that the national organization shall ask from each of those who join \$2 a year, and for that it is proposed to publish a monthly journal which will go to them for the \$2. It is following largely the plan of the National Geographical Society of Washington, which, with its \$2, sends the National Geographic Magazine, and their membership has grown to enormous proportions. We do not hope for a membership anything like as great as that of the National Geographical Society, because that appeals to all classes. We do hope to bring together in the American Mining Congress all of those people within the different states who are interested in the progress and development of the mining industry, giving to them a journal which possibly not at first but in a very short time will be fully worth the \$2 which is paid, granting to those associate members the right to become members of the state chapter by an additional fee to be imposed by the state chapter. My suggestion is that they should pay 25 cents a month or \$3 a year, making the total \$5 a year, and giving the state chapter \$3 with which they can employ a secretary who will be continually looking out for the interests of the mining men of the state. I do not think it is ever possible to have a strong organization unless there is provision made for some one who is able to give his entire time to the work. We have hoped through this plan that we could cement together all of the people who are interested in the mining industry, that we could keep them posted as to what is going on, and through their being advised as to the different classes of legislation which are proposed in the various states they will be able to meet the situation better than they could acting independently as we are now doing. The American Mining Congress is the first great effort to create a national organization of mining men along these lines, and the work

which has been done thus far has met the approval of at least those who are nearest to where the work has been done and know most about it. The Monthly Bulletin which we published for a time we were obliged to discontinue because of the lack of funds. The result is that we have no method of communicating with our membership except by personal letter, and that is too expensive. Consequently members have wondered what we were doing. If I could explain to you all the things we have been doing, I know that in the main you would approve what has been done and would feel that at least some good had been accomplished. But this new plan is to create a great, strong membership, and we are hoping that a campaign may be organized at this meeting by which, in each of the mining states of the West, a strong working mining organization may be created capable of presenting to the legislative bodies the real truth respecting mining and in that way preventing the legislation which is of a character detrimental to the mining business as a whole. It is proposed now that this journal shall receive advertising, and through the advertising it is hoped to make a profit for continuing the work of the national organization. It is hoped that the members of the organization will stand by the journal to the extent that they will be a little more friendly to the mining machinery manufacturers and supply dealers who patronize its advertising columns. If the mining men of the country would stand loyally by a plan of that sort, the journal would furnish a good deal of profit through which the national work could be financed. Now, it is proposed in this journal not to get into competition with the trade journals now published for the benefit of the mining industry. For years it has been proposed that we publish a magazine of this kind, and I have always been opposed to it because of the fact that we could not afford to lose the support of the mining trade journals, and I felt that they might possibly feel that our receiving advertisements, to some extent possibly in competition, was not fair and would feel that they could not afford to support our work. I have taken this matter up with a number of them, and there seems to be no objection of that kind, particularly in view of the fact that we do not propose to enter their field in the editorial line. The purpose is to keep our members advised as to proposed legislation affecting their interests in Washington and in the various states. We shall attempt to keep a record of the decisions of the courts which affect the mining industry; we shall also try to keep up to date on the administration rulings with reference to the mining industry in the departments at Washington, and in that way furnish the information along legislative lines which our members ought to have and which they cannot get in any other way. We hope, in addition to that, to make the journal an advocate of the Safety First movement, through which we may hope to bring about better service in the prevention of loss of life and injury to limb in the mining industry. Those are the proposed purposes of the new journal, and in view of the fact that we hope it will be worth the \$2 to our members we believe we ought to receive a very large membership, and if these men are all in one organization we are in very much better position to secure legislative support and indorsement than by being scattered in our efforts. I think that explains the purpose of this amendment. It is a little doubtful in my mind whether this amendment is clear enough, that the associate member will not be permitted to vote in the national organization. The members of the national organization who do have a right to vote pay \$10 a year dues, and in consequence of that they are a part of our corporation and they have a right to vote upon the election of all the directors and all of the business of the organization. It is not intended that the associate member shall have the right to vote in the national organization. He is eligible to vote in the state organization. The state organization itself shall be the sole judge of the qualifications of its members, and if somebody happens to pay \$2 and becomes a member of the national organization he does not become a

member of the state chapter unless the state chapter is willing to admit him.

MR. PETT: Mr. President, I now move that the amendment as read be adopted.

(Motion seconded and carried unanimously.)

SECRETARY CALLBREATH: Wait a minute. I desire, as proxy, to cast 130 votes for the amendment, and 203 of the proxies have designated either Mr. Scholz or myself, both names being upon the proxies, so that Mr. Scholz and myself, with his permission, will cast 203 votes. Mr. Scholz has 30 votes to cast if he sees fit to cast them in that behalf.

THE PRESIDENT: They are all cast.

Our program calls for a discussion of the needs of the western mining industry and plans through which its higher development may be fostered. This discussion was to be led by Dr. Holmes, and I am informed that Dr. Holmes is unable to come out at this time, and he has asked that he be excused from leading the discussion and has asked Mr. Callbreath to open the discussion in his place. I am very sorry it is not my pleasure to introduce Dr. Holmes tonight; he is recuperating from a very serious attack of bronchial trouble brought on by exposure and overwork, and we have endeavored to keep him indoors as much as possible and to guard against further exposure. I am now going to call upon Mr. Callbreath to open the discussion.

SECRETARY CALLBREATH: Mr. President, if I may be permitted before touching upon the other subject—or, rather, in the middle of it, because I have partially completed what I have to say along that line in reference to the amendment—I desire to say, concerning Dr. Holmes, that his illness is entirely the result of too intense loyalty to your interests. I have known many hard-working men, and I have known Dr. Holmes very intimately. I have never known a man who put in half the hours in the cause which he had at heart, the development of the mining industry, that Dr. Holmes has devoted to the service. I am sure that we all hope for his final recovery, because I should regard that if he were incapacitated for work the nation would lose its most faithful and most efficient servant. (Applause.)

I have outlined to you one of the plans through which we hope to expand the influence of the Congress, and through which we hope to help out the finances, through the proceeds from the journal.

Another plan which is proposed—a plan which has been followed by other organizations—is to create a bureau of mining economics, which will gather information about every possible phase of practical mining, which will keep in touch with markets, which will get all of the information that is necessary to be furnished either to the prospector who begins his work, to the operator, or to the engineer who wants special information along a certain line which is outside of his professional specialty, which will keep the legal phases and decisions classified so that they will always be available, which will collect information as to production and cost of production in every branch of the mining industry and be able to furnish data to all who wish it about any phase of mining. This has been a dream of my own for a long time. I did not know until recently that the railroads of this country maintained exactly such a bureau in the same building in which our Washington office is located. They are spending in the neighborhood of \$100,000 annually in the collection and preparation of the information which is there available. They are prepared to furnish any inquirer the information bearing upon any particular transportation question. The value of this service has recently been demonstrated. The railroads of the United

States, because of the increased wages and the increased cost of material, asked for an advance in freight rates, while on the other hand the Interstate Commerce Commission was requiring reductions, so that the railroad companies found themselves between the upper and nether millstones. After a lengthy hearing the Interstate Commerce Commission admitted their statement but seemed to be of the opinion that the railroads had better practice economy, but suggested that the passenger rates might be advanced, that they believed that the railroads from this source, from the economy practiced on the one side and the increased amount received from passenger traffic, could make up the deficiency which seemed to face them. The Bureau of Railroad Economics furnished information. It was sent broadcast, and the people began to realize that, in this country, we desire and demand the very best service that can be given, were expecting that perfect service from corporations which were hampered by increased expenses on one side and reduced returns upon the other; that condition prevailing at a time when the business of the country as a whole began to contract and lessen; the railroads were in a position where it seemed they could not make the improvements necessary and keep up their rolling stock and roadbeds. The result has been a reopening of that case and the railroads will have another chance to be heard and another chance to get what they believe they ought to have. Now, what I have said does not mean that I believe they ought to have the advanced rates or that they ought not to have them, but I do say that they ought to have enough of a rate to enable them to pay the costs which are necessary to be paid, to furnish those appliances which will protect the lives of their patrons and reduce the loss of life among their employes to a minimum, and enable them to give to you and to me and to the people of this country that efficient service which we demand. It was because they had this bureau in operation for a number of years that they were able to present this information in such a way as to secure what they desired. Now, it has been proposed to establish a bureau of mining economics along the same line, not upon so broad or comprehensive a scale, but it was estimated by the Committee on Ways and Means appointed at the Philadelphia convention last year, after a careful examination of the matter, that such a bureau would cost about \$25,000 a year, and it was proposed at that time, and our by-laws were amended to meet that situation, to provide for another class of memberships to be known as corporate memberships. It was proposed that the larger mining corporations should pay into a fund on the basis of their production an amount which would make up enough money to pay for the cost of this bureau of mining economics. The Mining Congress for a number of years, as you have seen by the financial report, has gone along creating a deficit. This report shows that during the last year, while our expenses have been greater than ever before, we have paid all of our expenses and reduced the deficit by several hundred dollars. I might say that a good deal of the credit for that is due to our President, Mr. Scholz. We hope to extend the general system of membership as far as possible; we hope to create the special memberships to such an extent as will enable us to maintain the organization and at the same time to create organizations within the several states willing and able to meet all state questions. We hope through the corporate memberships to establish a bureau of mining economics through which any member of Congress or senator or anyone else who desires information along any mining line can secure it promptly and accurately. With all these different plans which are now before us, with the record of one year of more than meeting our expenses, although greater than usual, the officers of the American Mining Congress feel encouraged to go forward. There have been times when it has seemed that we ought to stop, and some of our good friends have thought we might better stop; but we haven't stopped; we have continued; and we hope that the future, with the earnest support of the

mining men of the West, will put us upon the basis that we will not only deserve respect but will be able to command it. I thank you, gentlemen, for listening so patiently. (Applause.)

(Mr. Phillips in the chair.)

CHAIRMAN PHILLIPS: Mr. President and Fellow Members: You have heard the very happy reference which has been made by our Secretary, Mr. Callbreath, to the good work that has been done by our President, Mr. Carl Scholz of Chicago. A large part of the financial efficiency of the last fourteen months is due to his efforts, and I think it very timely that Mr. Scholz should favor us with his views as to what should be done for the good and welfare of the Mining Congress. (Applause.)

THE PRESIDENT: Mr. Chairman, Ladies and Gentlemen: I greatly appreciate the remarks made by the Secretary as to my efficiency, but I assure you he has greatly overestimated my work; and if I have done anything it has been one for the Mining Congress and two for myself. Like everybody else, I am selfish in my motives, and my interests and work were not entirely for your benefit but for my own and for the companies I represent. I referred last night to the fact that the coal people out here are in the minority. I think there are very few, perhaps less than a dozen, representatives of the coal industry here. At Philadelphia last year we had quite the opposite; there were few metal men and many coal men; and I think it proper that I again refer to the fact as to why the coal people have taken such an interest in this work. My first appointment as a delegate to the American Mining Congress dates back to 1900. At that time I was located in West Virginia, and the conditions at that time did not quite permit my trip to Milwaukee, although I was quite anxious to visit that famous town; but later on I was again appointed a delegate to the Congress at Pittsburgh, which I attended and became greatly interested in the work. I saw a certain analogy between the efforts of the Mining Congress and those which the coal people had been exerting along the same lines, but I am sorry to say without success. Later on I was called upon to assist in the work of establishing the Bureau of Mines, and that was my first active connection with the work. I was greatly surprised at the opposition to that work, which we now generally recognize as one of the best undertakings we have fostered, manifested by senators and congressmen—not all of them, but a certain faction which was very much opposed to any government aid in fostering the mining industry, which they thought was entirely for gain, and I shall never forget the chilly reception we received at the hands of some of our foremost senators. I didn't blame them very much, because they didn't know the needs of the industry, and I was surprised how little effort it took to fully convince them that they had been wrong and make converts of them for our cause. While my work was very limited, I am very glad that we finally succeeded in establishing the Bureau of Mines, because you all appreciate what has been done by it. Likewise it was my pleasure to assist in the establishment of a School of Mines in the state of Illinois. Unfortunately, I offered a short resolution at a meeting of a fuel committee that we should have a mining school. Had I been better posted I think I should have kept my seat. But once I got my foot into it I made up my mind the school would have to be established, and while it took some effort, I think in less than two months the legislature of Illinois appropriated the amount and the school has been in operation for four or five years and has done a great deal of good. It is one of the very satisfactory schools that we now have in Illinois.

The coal people had made several efforts to bring about co-operative work, but we didn't have very much success. Several of my friends appreciated that the Mining Congress had an established machinery which could be made good use of and we participated in the delibera-

tions of the Congress and allied ourselves with it. I am glad to say that out of the \$10,000 which we collected last year the coal mining industry contributed the larger proportion, being something like \$6,000, against \$4,100 coming from the metal mining industry. So you can see that we endeavored to pay you back for the money which you invested in establishing this machinery, and I feel sure in saying that the coal people in the future are going to be just as anxious, and more so I believe, to contribute their part of the expense. I want to assure you that we didn't want to take away something you had established; we wanted to help you to make it more effective and more useful, and we very much hope that we will be able to show you our appreciation not by promises but by cold cash.

I think that covers the most essential point I wanted to bring out, excepting that I again want to urge the necessity of attending to legislative affairs. I myself am not a politician, excepting by force, but I have found that if we do not interest ourselves in politics somebody else who doesn't care as much for the effect as we do will do the work for us and will not do it as well as we think it ought to be done, and in talking to some of you people here today I was surprised that a gentleman who was a delegate and also a member did not know that we were doing much work in Washington. Candidly, the main part of the work has been done by the Secretary. I made three or four trips, and I became convinced that we have a very excellent standing among the congressmen and senators in Washington now. We go before them and tell them our troubles and they listen in a very patient way and always give us a very cordial reception. I think they are much warmer toward us and our cause now than they were, because they realize that we do not ask for things we are not entitled to, but that we are simply asking for things we must have and need, and by presenting our cause clearly and strongly, and with the backing of such a large number of members as we ought to have I feel quite sure that we can make our cause felt much better in the future than we have in the past. There are some of you gentlemen to follow, and I am not going to tire your patience any longer, and I thank you very much for the hearing you have given me. (Great applause.)

CHAIRMAN PHILLIPS: Ladies and gentlemen, we have with us one of the prominent members from the state of Colorado, Mr. W. G. Swart, and will be glad to hear from him with a statement of his views on the promotion of the usefulness of the American Mining Congress.

(The President in the chair.)

MR. SWART, of Colorado: Mr. Chairman and Fellow Members: I have been asked to say just a few words further with regard to the attitude of the American Mining Congress toward legislative affairs. Like the Secretary, and, I presume, also the President, I have had some little experience with that matter in the state of Colorado in the last few years. We all seem to have our troubles in various states with our taxation laws and our compensation laws and various other measures which need not be gone into in detail here. We are all apparently fighting the same fight. It differs a little in the various states, but it is the same fight. Now, no one is going to fight this battle for us; we have to do it ourselves. None of us is able to make this fight single-handed, no state is able to make it single-handed. We must organize and stand shoulder to shoulder, and as I understand the American Mining Congress, that is its fundamental idea. That is one reason, and a good, strong reason, a real reason, why the American Mining Congress ought to have the support of every man in any way interested in the mining business.

A little while ago the Secretary said that in a good many of the states legislation had been originated by irresponsible or vicious people. It seems to me there is still another class, the ignorant people—people who

do not really know what they are doing; and if you will go into the state legislatures and study the men we have sent there, you will discover that a very, very large portion of the trouble is not viciousness but ignorance. Now, it is up to us to produce the education. If anyone knows anything about this mining business we do. We are miners. Who is going to educate these men and who is going to provide this information unless we do, and if we do not, who is to blame? Ourselves alone!

I am going to tell you a little thing that happened in Colorado two or three years ago. The governor appointed a certain man trustee of the State School of Mines. This man was not at all fitted for the position, and when the appointment was duly announced three prominent mining men of the state of Colorado took it upon themselves to go up and protest to the governor. They walked in and said, "Why, Governor, we are simply astounded that you should make such an appointment as this, and we are right here to protest against it." The governor whirled around in his chair and said, "Gentlemen, that is far enough. Every man of you knew that this appointment was to be made, and every man of you knew that I had to make it, and that this was the time it was to be made. There were three candidates for this office; no one spoke a single word for two of them, and I have here only two letters advocating the appointment of this other man. If this meant anything to you, why didn't you come and tell me what you wanted and what I ought to do? With proper advice from you gentlemen in advance I would have been glad to appoint any man had you shown me he was the proper one." Now, that is the idea. How do you expect we are going to get what we are entitled to? How do you expect the men at the head of the government will know what we want unless we tell them? And as I conceive the American Mining Congress, its duties, its opportunities are right along this line, and the responsibility for action is ours.

And there is one thing more. I can't say that I know exactly how to present it, but it is a general proposition. It is not confined to mining men. You look back over political history in this country and you will find a large part of the criticism made of our methods of legislation has had to do with the lobbying system. What was done was often done under cover and in an under-handed way. But the railroad people have had to come out into the open. It was forced upon them. The railroad lobby is practically a thing of the past. It may still exist, and I presume it does exist, in spots, but taken by and large, the railroad lobby is a thing of the past; and in the future you are going to see the railroads coming squarely out in front of the public with whatever they have to offer—with their complaints, with their troubles, with their requests and with their demands, and they have got to play in the open. And so, gentlemen, have we got to play in the open. I think it is beyond any question that the time has come when the mining men with a just cause must stand up firmly and in public view and tell the people plainly what the truth is, back it up with the reasons and demand their rights; and I believe, gentlemen, that the American Mining Congress has a place, it has a position, it has a niche to fill, and that it can better do this work than any organization that is in existence today. For one, I am prepared to support it so far as I can, myself, and for the people I represent, and I hope you all feel the same. If you don't, get posted. I thank you. (Applause.)

THE PRESIDENT: Ladies and Gentlemen: There is a delegate present this evening who made such an entertaining address this afternoon that I feel sure we will want to hear another one from him. I now call upon Dr. William B. Phillips of Austin, Texas.

MR. PHILLIPS: A good many years ago Mr. Knott represented a district in Congress from the state of Kentucky. He made a famous speech about certain improvements which the government was to under-

take at Duluth and spoke of Duluth as the queen city of the unsalted sea, and went along in a very humorous and effective vein. It is reported that he said he would have given a thousand dollars if he had never made a humorous speech in Congress, as nobody afterwards believed that he could be in earnest.

The moral of this story lies in the application of it. It has become my unfortunate duty to speak of the financial end of the undertakings that lie before this American Mining Congress. Many years ago, when I was some years younger than I am now, I was a deacon in the Presbyterian Church. (Laughter.) No one need believe that unless he wants to. I had to collect money for the sustenance of the church and the payment of the pastor's salary, all of which I did with signal success. We want about four million dollars out of the United States government for the advancement of the American mining industry, and I propose that we get it. (Laughter and applause.) I want to read to you, or rather, recite to you, some very pertinent statistics on this subject prepared by the director of the Bureau of Mines and published in his last annual report. Those figures were adopted by Mr. Kern in his speech before the United States Senate in furtherance of some of the plans submitted for the support and maintenance of mining experiment stations throughout the country; so they have a double value, having first been prepared by the director of the Bureau and then used by Mr. Kern.

The total value of the agricultural products of this country is about ten billion dollars.

The total value of the mining products may be taken as about four billion six hundred million.

The appropriations for agriculture by the United States Congress amount to about twenty-eight million dollars.

The appropriations for the support of the mining industry, including all of the work of the Geological Survey and Bureau of Mines, all of the work that is undertaken for topographical surveys, surveys for water and irrigation which fall under that department of the government—how much do you suppose? About two million dollars. Twenty-eight million dollars for agriculture; two million dollars for mining! Whose fault is it? I think it is the fault of the mining men. The farmers can stand together, and they do. They present a united front, whether they call them Populists or Grangers or Democrats. (Laughter.) There is very little wavering in their ranks, and what they want they generally get. You know a farmer is a man who makes his money in the country and spends it in town, and an agriculturist is a man who makes his money in the town and spends it in the country. (Laughter.) I am an agriculturist. I once owned a farm in North Carolina and it broke me every year trying to keep it up, but I can distinctly recall that the members of the legislature were very much more inclined to regard me with respect as long as I owned a farm. When I became a mining man they passed me by on the other side of the street. It is, I think, our fault—and I speak of the mining men collectively—that the United States government regards with so little favor any requests coming from the mining industry of the country. If we had from the general government the same proportional support that is given to agriculture we would have about eleven million dollars a year spent for the benefit of the mining industry. We would have about eleven million dollars expended for the benefit of the mining industry, as against twenty-eight million for agriculture, because that is the relative proportion of the value of those two products, agricultural and mineral, instead of which, for all purposes, we have less than two million.

If you will pardon me for a minute, I am going to read a little item here taken from Senator Kern's speech, and I want you to remember it.

The yearly appropriation by the general government for agriculture. Three separate items. From direct appropriation, \$2,500,000; from land grants, \$1,000,000; from the Smith-Lever bill, which I believe is now pending, \$480,000 in 1915, and then it increases automatically, so much each year, until it becomes a very respectable sum; for fifty-two agricultural experiment stations, one in each state, \$1,500,000; for general research and other work in agriculture and mining—I am glad they put in those words “and mining”—\$22,000,000.

That “and mining” reminds me of the way they used to manage in North Carolina, when a colored man and a white man went into partnership in the farming business. The old nigger said that at about harvest time the white man would take out a little old pencil and figure on the back of an envelope and he would say:

Naught is a naught, and a figger is a figger,
All for the white man and none for the nigger. (Laughter.)

I think that is the way our appropriations were figured out; they get twenty-eight million dollars a year and we get two. Where do we get off? Now, how are we going to get that money? I do not doubt for a minute that we shall get it. You never get anything that you don't expect to get. I think there is a bill now pending in Congress for the establishment of fifteen mine experiment stations throughout the United States and an appropriation of twenty-five thousand dollars to each one. It is barely possible, I think, that at this session of the Congress more than three of those stations shall be established, if so many. One, I suppose, would be established in Arizona, in connection with the University; the others established throughout the country where the needs seem to be most pressing. It is up to the mining men of the country to secure the passage of that bill. If we do not pass it nobody else will give it the least attention. If you people believe that Arizona ought to have one of those mine experiment stations, go and get it. If in Texas we believe we ought to have one, why, we will go and get it. If there is to be one farther north of here, or farther east—you cannot go much farther south—those people will simply have to go and get it.

Now, furthermore, I want to say that I fully indorse what Mr. Swart has said. I always agree with what Mr. Swart has said, no matter if he didn't say it. (Laughter.) All this work must be done perfectly above board. It must be perfectly understood that this is an open game from one end to the other. We have nothing to conceal; we have everything to lay bare; we must make our demands perfectly open and plain so that we can appeal to that great sense of fair play which is the distinguishing characteristic of nearly every American I have ever known.

I think one reason why there is getting to be somewhat of a reversion of popular sentiment in regard to the railroads is the fact that the American people have become aroused to the idea that the railroads haven't had a square deal, and when they come to understand that the mining industry in this country has not had a square deal the American people, if I understand them aright, will see that we do get it. We are asking for no more than our just proportion of government help. I wouldn't take one cent away from the farmers; I wouldn't take one cent away from the twenty-eight million dollars that is devoted to agriculture. It needs it and more. But we need it, too. We need it in proportion as they need it, and if we do not go and get it I think they will get it. (Laughter.)

Now, to bring the matter a little bit nearer home: How much do you good people in Arizona give to the support and maintenance of the mining business in your state? You talk about the great mineral products of Arizona, and they are very large. How much money do you

contribute to the promotion of the interests of the mining industry in your state? Why, back East—and I do not live so very far back East—we do not regard Arizona as an agricultural state; we think of it as a mining state; and yet I am told you give four times as much to the support of agriculture as to the support of mining. Now, how can you expect the general government and those interested in the development of the mining industry of the country, to do any better than you are doing yourselves? We do not regard Arizona back in our country—and I have lived much farther east than I do now—as anything but a great mining state, and yet I am told that you do not do very much for the maintenance of the mining schools and in aid of scientific research here in your own state. If I am wrong I will be glad to be corrected, just as glad as the old Dutchman was who took dinner with us. He was bragging about his memory. He said, "Mr. Phillips, I have an awful good memory. You have no idea how good a memory I have. I can't remember a single thing that I have ever forgotten." (Laughter.) If I have forgotten anything I will be glad to have you call it to my attention.

Now, I will not speak any longer or tax your patience. We must have this support from the general government, and we must have it now, and if we do not get it ourselves nobody will hand it to us on a silver platter. Are we prepared to go open-handed and open-hearted into this struggle? If the American Mining Congress is to stand for anything in this part of the country it is for government aid in undertakings that we cannot undertake for ourselves.

I thank you very much. (Applause.)

THE PRESIDENT: We will be very glad to hear from any one else who has anything to say on the subject of the betterment of the mining interests of the country. We do not want to close now because Dr. Phillips has warmed up the audience, and let us keep the iron going while it is hot. Mr. O'Brien, you are a Western man and a coal man. Tell us what you have done and what you are going to do.

MR. O'BRIEN: I don't know that I have anything to say. I am perfectly willing to accept Professor Phillips' apologies. (Laughter.)

MR. WOLCOTT: Mr. President and Members: The question, as I understand it, tonight is what can we do to better the condition of mining, and judging by the enthusiastic manner in which the delegates here rise to their feet to offer suggestions at the present time, I am inclined, or would be inclined, to believe that mining was getting all that was coming to it if I didn't know better. I do not think there is a man within the hearing of my voice who believes that mining is receiving the attention that it should receive, that it is receiving the consideration that it should have. I do not believe there is a man here that believes that in any of the Western states where mining is being done that enough mining is being done or that the proper kind of mining is being done, or, what is more to the point, that the mining fraternity is getting anything like a square deal in its mining operations. I do not think anybody believes that we can get what we are after single-handed. We have been trying individually for years as miners and as mining corporations to get that square deal from the federal government, from the state governments, from those who have anything to do with the mining industry, and we have failed. Up to four years ago the mining industry was hardly represented except through the Geological Survey, which certainly was not a mining bureau, and yet for twenty-five years or more miners were trying to have a bureau or department of mines established. They were trying individually. They went before congress and before the committees and asked that such a bureau be established, and they got turned down and got nothing for it. Then it was taken up by the only organ-

ization which had mining at heart and was doing anything for mining, the American Mining Congress, and within four years from that time the Bureau of Mines was established. We cannot do anything individually; we can accomplish things only as an organization. Here in Arizona you have had some laws enacted which have been mentioned before in this convention, which, if applied, will probably close the greater part of the mines of this state. There are two such laws in particular, one that forbids a mining company to employ more than twenty per cent of any class of people that are not qualified electors; another law that forbids the mining men to ask the applicant for a position or for a job if he an American citizen. Now, that is practically the way the anti-blacklist and the eighty per cent law work together. And what are you going to do? Are you going to close your mines or are you going to commit a felony? And yet mining men allowed those laws to pass. Why? Because they were not organized. If they had been organized these laws would not have passed.

Now, I want to tell you some things that can be done by a state organization. I want to cite the case of Colorado and its tax commission, or the Colorado tax law. Two years ago there was introduced before the legislature of Colorado a law which, in many ways, was arbitrary, which allowed the assessor a latitude that no assessor should be allowed, and which in many ways was unfair to the mining industry. As secretary at that time of the Colorado Chapter I wrote a letter analyzing, so far as I could, the effect this bill would have on the mining industry, and I sent it to the various mining men of the state. I got a few answers. Most of them didn't pay any attention to it at all. The answers that I got said, "It is so ridiculous it cannot pass." "No legislature that has the sense of a gray cat would ever pass such a law." However, I could do nothing individually. I wasn't authorized by the Chapter to do anything further than I had done, and the consequence was that law passed. Now, that was bad enough as it stood, but the assessment which was levied in one district was contested in the courts by the mine owners and the Supreme Court handed down a decision something like this—that the assessment should be levied on the entire value of the metal contents of the ore, at New York quotations, irrespective of whether it was paid for at the smelter or whether it was penalized or thrown out as waste matter. (Laughter.)

Well, a good many of the mining companies and some individuals and one or two of the smaller organizations took it up before the Supreme Court and asked for a re-hearing. They were not granted a re-hearing at that time. Then the Colorado Chapter of the American Mining Congress met, took up the same question, went before the Supreme Court, asked for a re-hearing, and was granted a re-hearing, and we had, I think, ten days in which to prepare our brief and appear before the court, which we did, and within ninety days we had secured a reversal of that decision; we secured more than we had asked for, because the Supreme Court decided that the charge for extraction and transportation should also be deducted from the ore as well as the metals not paid for. Now, that was only one effort. We have done many other things in that state, and yet our organization is not nearly so strong as it should be. Now, miners of Arizona, is it not about time that you get together in an organization that can handle these questions, or are you going to stand back and try individually to do what you cannot do as an individual and have the legislature, the tax assessors or any power that be—I am not throwing it at my friends the tax commissioners or assessors in the back part of the hall, but the tax commission has to raise the money to run this state. You who own the mines look, to them, like ready money. They can tax you, and make themselves believe they are doing the right thing. Just so long as you are working as individuals, just so long as you are not organized, you are going to get this kind

of treatment. Now, isn't it about time to get together and organize to look after your own interests?

I thank you. (Applause.)

MR. CHALMERS: Mr. President, I would like to say a word regarding raising capital for mining. Some years ago I went up into Alaska—in 1898. I spent three or four years there, and while there I was interested in mining. I found companies there which had flooded some of the states with what they called mining certificates. Some of these companies spent very little of the money for mining purposes. Of course, not having spent any money, or very little, those that bought stock didn't receive any dividends. In 1912, I believe, they passed in this state, what is called the blue-sky law, and we have a commission, and it has taken some of us promoters out of that class of people who take people's money and put it in their pockets and don't put it into mines. A few years ago, and more recently, nearly every magazine I would pick up was advising people, bankers especially, people with money, farmers, everyone, not to put a cent in mining; that they did not consider mining a safe investment. Suppose we want to raise capital to help the mining industry—I have been trying to raise a little myself, and that is how I come to know a little about it. Nearly every friend I approached seemed to think I was a thief or something about as bad. I have had a good many temptations to be dishonest, and I try to be honest. I pay my bills, and I am willing to go in debt if people will trust me. It would seem to me the best way for us to raise money for mining would be for those who are in a position to do so to try to educate people who have been led to think that all promoters are thieves. Since these blue-sky laws have been passed, these commissions look into these things, and unless a prospect is sufficiently good it is impossible for any one to sell stock. These commissions, if I understand it right, are going to look into the matter from now on and see that a fair amount of that money is invested in the mines, and invested right, giving the people a chance to get their money as they never have before. I think if the people could be educated to the fact that mining is becoming more honorable than it has been in the past the majority of the people, or a great many of them, would be only too glad to invest with those who are trying to open up the mines.

I thank you. (Applause.)

A DELEGATE: Mr. President, I am a miner, and I have some mining claims located ten miles from Wilcox, Arizona, in the foothills of the Graham mountains. I got through doing some assessment work out on the claims, came to Bisbee, Arizona, looking for work, and I was referred to the two laws put through in the state of Arizona, that you men say are no good—the eighty per cent law and the anti-blacklist law. I went to the Copper Queen employment office to get a job. I received the job. I went before the doctor, and the only thing he could find wrong with me was that I had a little fever. I couldn't get any work. I don't believe in competing with the foreign element in this country. I can't go into the Bisbee camp and live on 50 cents a day as those people can. That is my opinion in regard to two of the finest laws ever passed in the state of Arizona. Thank you. The only thing, Mr. Chairman, that you educated men—you men are educated and know better, but you simply blindfold the working class of people because you haven't got the backbone to stay by what is right.

MR. SHERMAN: Mr. President, I think the last speaker is mistaken in the object of the physical examination. A physical examination was suggested for a very just purpose, and I believe it is serving that purpose. There are certain men who ask for employment in the mines who are not fitted to work underground. They are not fitted to work

underground not only for their own sake but for the sake of the men they are working with. There are two or three things which would bar a man from such work. One of them is tuberculosis; another is heart disease. There are other things in less degree. One of the indications of tuberculosis is the temperature. I think every doctor will bear me out in that. I think the last speaker, if he had returned a few days later with no temperature would have had no difficulty in being passed and getting work. I think no one can object to the barring out of a man with tuberculosis from work underground. It can do him no good. He has no business underground, for himself, and he is injuring every man that he is associated with.

A DELEGATE: Mr. Chairman, in regard to the question the gentleman brought up there, I don't see why they don't pass a law that they would examine a man when he gets through working in one of those hot boxes, as I call them. That is the time to examine a man that gets all your diseases this man claims. That is the time to examine them—when they come out of these hot places.

THE PRESIDENT: I would like to correct an impression of the last speaker in connection with his reference to the educated man. For my part, I am a mining man from the pick. I worked in the mines myself in Germany, and we were compelled to undergo a physical examination, because we had the workmen's compensation acts, which carried with them pensions, and our employers felt that they wanted to be very careful in the employment of their men, therefore we had to undergo a much more rigid examination than those required by life insurance companies in this country, and it had a very beneficial effect. It gave us a better class of miners all the way through and kept many men from wasting their lives had they been permitted to go underground. So I have had experience as a practical miner, and I will say that our wages were nothing like yours are here, and the work was much harder and more trying, and we found that a physical examination was of the utmost importance, and it was conducted with every man that was admitted to a mine before he would be allowed to go inside.

MR. WOLCOTT: Mr. President, I would like to correct the gentleman in regard to his understanding of my remarks pertaining to these two laws. I did not question whether the laws were good or bad. What I said was that there had been two freak laws passed which conflict with each other, one nullifying the other, if you try to live up to them as they appear upon the statute books. That was my sole contention.

THE PRESIDENT: I would like to make just one more remark, and that is, that all great movements usually come from the east to the west. Women's fashions that originate in Paris find their way to Chicago and land in Phoenix—as I discovered last night. (Laughter.) I think the legislative movements work very much in the same manner, and I have had experience in the last fifteen years in one of the highly organized states, the state of Illinois. It has been our experience that we have great lessons to learn from our employes who, by organized efforts, obtain concessions that we would not be able to get, and finally we agreed in our wage agreements that our employes would not introduce any bills in any legislative house that had not been discussed with us. That forms a part of our wage agreements now, and we found it absolutely necessary. You people out here haven't had to deal so long as we have with labor unions, but I can tell you that we have learned some valuable lessons from the acts of our employes. It has been the tendency of coal operators to content themselves with the defense of their interests against measures introduced rather than to form and introduce aggressive legislation. We simply rested on our oars and endeavored to defend ourselves against such bills as were proposed; but our aim and

effort now is to do the very opposite—to introduce legislative measures and thereby stop the other side from being too aggressive, and that, in my opinion, should be the first effort of the American Mining Congress, to draft bills which will meet your needs, and introduce them, and not wait to simply fight the other fellow off, but to attack him, to pursue very much the tactics that the great German Emperor has pursued of late, and I very much hope that before we leave here we will adopt ways and means to bring that about.

We will be glad to hear from others. We still have a few minutes before adjournment.

SECRETARY CALLBREATH: Mr. President, this being a meeting of members, and a little different from our regular convention sessions, I move that the members meeting do now adjourn to meet at 2 o'clock tomorrow afternoon. This will give the Nominating Committee time to report, the Convention, as such, reconvening at 9:30 in the morning.

(Motion seconded and carried.)

Meeting adjourned.

ADJOURNED MEETING OF MEMBERS.

December 9, 1914.

2:30 P. M.

CHAIRMAN DAY: Gentlemen, we will be obliged to pass the program for a few moments and go into session as a meeting of the members of the American Mining Congress. Visitors will please remain in their seats. It is only a formal matter and the report of the Committee on Nominations is now in order. Is the chairman of that committee ready to report?

MR. W. G. SWART: Mr. Chairman, your Nominating Committee beg to report the following nominations for directors of the American Mining Congress for a term of three years: Messrs. Samuel A. Taylor, Carl Scholz, Charles S. Keith, L. A. Friedman and Walter Douglas; for director to serve for term of one year, Falcon Joslin.

I move the adoption of the report.

Motion seconded.

THE CHAIRMAN: It is regularly moved and seconded that Messrs. Samuel A. Taylor, Carl Scholz, Charles S. Keith, L. A. Friedman and Walter Douglas be elected to serve for a term of three years, and that Falcon Joslin be elected to serve as director for one year. Are you ready for the question?

SECRETARY CALLBREATH: The by-laws provide that the election be by ballot, so that if there is no objection an instruction to the Secretary to cast the unanimous vote by ballot would be in order.

CHAIRMAN DAY: Gentlemen, you have heard the statement of the Secretary. What is your pleasure? If there is no objection to the names proposed by the Nominating Committee, a resolution as suggested by the Secretary will be in order.

MR. SCHOLZ: There is an objection, Mr. Chairman. I have been a director for four or five years, and I feel that I have done my duty by this movement, and I would be very glad to have some other man selected to take my place. There are men who are better able to work for this cause than I, and I candidly believe it would be for the best interests of the Mining Congress to put somebody else in my place.

CHAIRMAN DAY: I think, Mr. Scholz, the Congress appreciates your position, but at the same time good men are scarce. The showing you have made in the administration of the affairs of the American Mining Congress is such that we cannot afford to lose you. That is my judgment, and I am sure the other members agree with me. As a representative of the great coal mining industry we certainly need a man of your caliber on the board. I am glad there is no move to accept your declination, and the chair declines to entertain it. (Great applause.)

A motion to authorize the Secretary to cast the unanimous ballot of the members present in favor of these nominations is now in order.

MR. CLARK: Mr. President, I move that the Secretary be instructed to cast the unanimous vote of the members present for the nominations as submitted by the committee.

(Motion seconded and carried unanimously.)

CHAIRMAN DAY: The Secretary will cast the ballot accordingly.

SECRETARY CALLBREATH: Mr. President, in accordance with your instructions I hereby cast the unanimous vote of the members of the American Mining Congress for the election of Mr. Falcon Joslin to serve on the Board of Directors of the American Mining Congress for one year and until his successor is elected and qualified, and for Messrs. Samuel A. Taylor, Carl Scholz, Charles S. Keith, Walter Douglas and L. A. Friedman to serve as directors for the term of three years and until their successors are duly elected and qualified.

CHAIRMAN DAY: The votes have been cast by the Secretary according to the direction of the Congress, and I now declare the gentlemen named have been duly and regularly elected directors of the American Mining Congress.

Members meeting adjourned.

The President's Annual Address

BY CARL SCHOLZ,

CHICAGO, ILL.

The aim and purpose of The American Mining Congress have been placed before the membership and mining interests so often in recent years that it becomes unnecessary to reiterate them now. There is no doubt that the need for this organization has become greater, that its efforts are more appreciated, and that it occupies a stronger position now than at any previous time. That its good work is valued by others than the metal miners of the West is evidenced by the active interest taken in its work by the coal mine operators, more particularly since the Chicago meeting of 1911. It may be appropriate at this time to state that the coal operators joined The American Mining Congress because they felt it was the best organization in existence to carry out the work in hand, having an established standing and working machinery. Efforts to start co-operative work among the coal operators had failed and The American Mining Congress was considered the best organization which could be helpful to the coal mine operators, as it had been in the metal mining business. It has been hinted that some of the metal miners felt the coal people were trying to monopolize the Mining Congress, but let me assure you now that such is not the case. Mining is mining, whether the product be coal or gold. Our interests are identical whether the mines are located in Arizona or Pennsylvania. The chief topic of this address, therefore, is to urge co-operation and combined efforts toward improvement in the mining industry, irrespective of the location of the mines or the character of their product.

I will not burden you with the detailed statements of what has been done in the last year. The reports of the various committees and of the Secretary will cover these subjects fully. There is one point I will touch upon briefly in reference to our financial situation. As you will see, our income for the year has exceeded our expenses and our outstanding debts have been diminished—this notwithstanding the increased expenses due to the maintenance

of the Washington office during the entire year on account of the prolonged session of Congress; also that arrangements have been completed on begin on January 1st next the publication of a monthly bulletin, which will serve to establish closer relations between our widely scattered membership and keep the more inactive members thoroughly posted on the work in hand.

The methods of modern business within the short time of our experience have undergone great changes. The advance from the tallow dip to the tungsten lamp in the lighting of our homes may be considered a fair comparison. In the first half of the past century the perplexing question of big business had not made its appearance. When owners were co-workers there was little need for legislative regulation or supervision. Man had not specialized upon a single occupation or depended solely upon it for his livelihood. Trade Unions had not restricted the working hours or output of individuals. The relations between employers and employes were closer, and personal equations were more pronounced. There was little need for contracts and intricate agreements—a man's word was his bond. I do not intend to convey the impression that modern business is altogether bad, but it certainly is different, and to some it may seem better. The question we must naturally ask ourselves is, have we contributed our share toward the solution of the great problems which necessarily follow in the wake of tremendous development such as this country has undergone. We have a different people to deal with and a different Government to regulate our affairs; therefore cannot look to other countries for precedence to follow. We have business varying from the smallest unit of the single prospector to the largest mining corporations, with many grades between these two. To properly protect these great varieties of investors and workers, to give each his due share, is an undertaking of the greatest importance.

Mining in a measure is the administration of a public property insofar as it is an estate not created by man and which cannot be replaced once it is removed or used. Geographical lines, so sharply drawn for political purposes, must be lost sight of in mining, because the different States not containing any mineral resources are dependent upon their supply from the more favored sections. Unlike the manufacturing or farming industries, the sources for mining cannot be shifted, and yet its products are needed everywhere. The enormous coal deposits of the far Northwest are of

little interest to the State of New York as long as there is an available coal supply in Pennsylvania, but New York is concerned in the situation of its present coal supply because if it is exhausted sooner by waste, that section of the country will have to depend upon a supply located elsewhere, which will be more costly to obtain. The sections with small or no mining interests are usually large consumers of mining products, and the metal manufacturing sections with their established population and industries depend upon the fuel and ores of the mining States for their very existence. Mining, therefore, is distinctly an interstate business and of interstate value. Some regulation has been considered in this respect; for instance, in the State of Oklahoma, by fixing the minimum price at which gas or oil from its wells may be sold.

I am not competent to speak authoritatively on the great amount of mineral resources available, but I have often endeavored to reconcile the statements published by the United States Geological Survey on the vast amount of coal available in certain fields with which I am quite familiar. These statements refer to all the coal in existence without distinguishing as to the cost of extraction; in fact, all Government reports are silent on this point, and the ordinary reader naturally believes that the billions of tons of coal available can be produced at no greater cost than the present supply. This cannot be true, and in less time than the average man believes we will be forced to recognize the fact that even the largest coal fields are being exhausted very rapidly and that the remaining coal while available will cost many times over the present cost of production. Even within the limit of my personal experience many important mining centers have been abandoned or gone back in their production. This may not indicate extraction of all the available coal, but certainly no more coal will be produced in these sections at the present prices, and undoubtedly large proportions of the abandoned territories are lost forever, or can only be recovered at a greatly increased, or perhaps prohibitive cost. The average life of a coal mine in this country is rarely in excess of twenty-five years. In the major portion of our coal fields, particularly the interior sections, rarely more than two or three workable veins exist in the same territory, frequently only one. I may mention a few of the sections more generally known where the production has diminished, such as the northern coal field of Illinois and the Hocking Valley field of Ohio. In the Great Kanawha district

of West Virginia all of the coal along the river has been worked out or abandoned and the newer mines have been located along creeks and tributaries to the river. If these mines are worked out in as short a period as those along the river front, it will not take very many generations to exhaust the field. In Germany, France and South Wales where from ten to fifty workable veins exist in the same section overlying each other, it is merely a question of increasing the depth of the shaft to obtain additional areas. Mines have been hoisting coal from the same shaft for three hundred years in the vicinity of Liege. If similar situations exist in the metal mining industry, then we betray a trust placed upon us by further delay in exercising the obligation which we assume as managers of a destructive industry, because aside from the proper treatment of our workmen and consumers the chief duty of the operator is to avoid waste, which is an irreparable damage.

We can only speak with words of the highest praise of the work accomplished by the Bureau of Mines during its short existence, and at the same time decry the limited support which this Bureau receives from the National Government. The appropriations are too small to even investigate the physical features of mining, and the Bureau is not in a position to be of any assistance or even investigate the economic sides of the industry. The only statistics collected now deal with the mine accidents, and the only information on economics is collected by the Census Bureau every ten years and the information when furnished two or three years later is of practically no value on account of the great delay.

The people of the United States now contribute yearly out of the Federal treasury twenty-eight cents per capita to the Department of Agriculture against a contribution of two cents per capita for the advancement of mining and this discrepancy exists in spite of the following facts which should appeal to the American people:

"That in mining we have the most hazardous of our great industries and in agriculture the safest.

"That our mineral resources, once exhausted, cannot be replaced and we therefore should use this supply with the highest degree of intelligence and under such safeguards as keep in view the welfare of our future generations.

"That in point of production every miner contributes annually two thousand dollars to our national wealth compared to a contribution of eight hundred dollars from every farmer."

The appropriation for the Bureau of Mines is less than one-half that for the Geological Survey and much less than that for many other less important branches of our public service; it is entirely insufficient to enable this Bureau to meet even the humanitarian demands being pressed upon it in behalf of safeguarding the lives of the more than two million men associated with mining, metallurgical, and other mineral industries of the country; and the Federal Government is failing in its duty towards this great industry.

I am sure that every member of the American Mining Congress will agree with me that we must somehow impress the Congress of the United States with the imperative need of enlarging the appropriations and the scope of the work of the Bureau of Mines; I am also sure that every member of the American Mining Congress will agree with me as to the imperative need of establishing a Federal Department of Mines which will have within its organization several bureaus, each investigating different phases of the mining industry, and at the head of this organization a Secretary of Mining who will be a member of the President's cabinet and who will see that all the interests and the needs of the mining industry are properly presented to the President, to the Congress of the United States, and to the people of the United States.

Other branches of the Government do a great deal for their constituents. I have in mind the crop reports which are collected by the Agricultural Department largely by telegraph and which are furnished very frequently to the farmers and dealers in farm products, to the great advantage of both. Undoubtedly the mine owners are partly responsible for not having insisted upon more co-operation from the Government, and, perhaps, we have a lesson to learn from the mine employes in obtaining their desires from the Government. Through the various ramifications of labor organizations the mine workers have obtained great political prestige and have made good use of it from their viewpoint. They may not have always acted wisely, but they have obtained much they have asked for. There have been extended strikes in the metal mining industry and some are in existence at this time. The great coal strike of Colorado, which has extended over a period of five years, is being waged solely to obtain recognition of the Miners' Union by the operators of that State. The anti-trust laws passed by the last Congress are generally considered a great victory won by the

laboring classes. For years we have heard much of the labor oppressing capitalist, and perhaps there were isolated cases where the acts of greedy corporations had to be curbed, but there is danger of going too far in this direction, and sooner or later it will be much more difficult to settle the labor problem than has been the regulation of moneyed trusts. Labor organizations are not impoverished and do not ask for sympathy. They have ample funds, which are freely spent if deemed advisable or necessary to carry a point. Practically two per cent of the wages of the organized coal miners is contributed to the maintenance of their various organizations. The chief difficulties experienced in dealing with these organizations are not so much with their leaders as with some over-zealous members or sub-officials. Undoubtedly these conditions are not known to their fullest extent by our people or the Government. The repeal of the Full Crew Bill under the referendum law of Missouri at the last November election is an indication that the people are interested in matters of avoiding unnecessary waste. The politicians of that State under the pressure of railway employes' organizations had forced the passage of a bill which increased the operating cost of the railways without any benefit to their employes or the public. It was a question of a greater number of people having pressed their case before their legislative representatives successfully, but when the attention of the people was called to the defect of the Bill and to the damage it did, it was promptly recalled and set aside by a great majority of the popular vote. The coal operators of Arkansas and Oklahoma were not so fortunate in having the Mine Run Bills of these two States recalled, and, strange as it may seem, in the latter State the greatest support which the Bill received came from the members of the Farmers' Union, whose constituents have to pay the bulk of the cost because they are the buyers of that grade of coal which is mainly affected by this damaging legislation. Perhaps the Farmers' Union wished to help the Miners' Union because both were Unions and therefore the natural enemy of capital. Were it not a most serious matter, we might enjoy the ridiculous view of this attitude.

Congress convenes at Washington today, and there is necessity for aggressive and constructive legislation. Mine operators have been contenting themselves more or less with defensive measures, but I wish to urge not only for the best and strongest repre-

sentation at Washington and at the various State Capitols but also for the introduction of measures deemed necessary to the best interests of mining. At this occasion I want to make clear the oft-misunderstood purpose of the maintenance of the Washington office by The American Mining Congress, some members having expressed themselves as not being in favor of maintaining a lobby, feeling that it was degrading to the Congress and not worthy of the industry. This attitude and misconception must be corrected. Our representation at Washington is not for the purpose of unduly influencing Congress in our favor or obtaining concessions by unfair means. It is there for the purpose of aiding our law makers in the protection of the industry and advising them of our needs. With all due deference to the make-up of our State and National legislative bodies, it is not reasonable to expect of them a thorough knowledge of all affairs of this great country and the needs of the great multiplicity of interests and industries therein. It is not only a necessity but a duty of each industry to have at convenient reach representatives who may inform and consult with Congressmen on matters pertaining to their respective lines of business. Every day new problems arise, regarding which the Congressman removed from his home conditions cannot be kept posted unless he is constantly informed by a reliable source. It is not reasonable that we should expect other interests to champion our cause, and I would recommend that each mine owner, even if he is not a member of this organization, advise his Senator and Congressman that The American Mining Congress is the representative of his respective company in matters pertaining to the mining industry and will gladly furnish correctly and concisely such information as may be called for.

Before the year closes the Federal Trades Commission will be appointed by the President, and the mining industry deserves the fullest consideration in the selection of the personnel of this board. You have been requested to use your influence in this direction and it will soon be too late to do so, therefore prompt action is desired.

Many of us are, perhaps, in doubt as to what constitutes unfair competition. On one hand, railroads must charge the same rates, otherwise their competition is unfair; yet if mine operators prepared a price list they would be promptly attacked as a combination in restraint of trade or in violation of the State and National anti-trust acts. The shipping trust was declared legal because it

agreed upon rates and apportioned the transportation of steerage passengers from Europe to this country, and even some advantages were seen by our higher court in this combination. The Harvester trust was declared illegal because it manufactured forty per cent of a certain farm implement. If there ever was need for co-operative work in any of the great industries, the bituminous coal industry deserves the most immediate and fullest attention of the Trades Commission, and it will, I am sure, be accorded every facility and assistance at the hands of the mine operators of this country to clarify the drastic conditions.

The recent war has brought to our attention conditions which we had not been obliged to consider in the rush and bustle of our rapidly growing country. Some of us have had to change our views that a foreign war would mean a great boom to our industries, that our coal mines would be operated to their fullest capacity to supply the demand of the navies and industries of the foreign countries, but with some minor exceptions, the very opposite has been true. We have been obliged to admit to ourselves that we are not as independent of the world's trade as we have been led to believe in Fourth of July orations and after-dinner speeches. These sudden conditions are problems of the greatest magnitude, and while we may never be able to solve them in their entirety, great relief can be afforded. They are not matters which can be settled by individuals, and while there may be leaders doing more than their share, they must have the support and co-operation of a large following to bring about the most good to the greatest number.

Let me suggest also at this time that the delegates to this Convention report to the authorities who have sent them here the proceedings and the work of this Congress. Do not believe that your duties as delegates end by attending these meetings—the real purpose of your coming here is to report at home what you have found and what you think should be done by yourself and your principals. Do not wait for the distribution of the printed proceedings of this Convention. The desk of the busy man today is burdened daily with publications of this kind which are often not read for weeks and months, and frequently consigned to the bookcases without having been opened. I am sure a concise letter, with a personal opinion expressed, will do much more good than hundreds of pages of closely printed matter which remains unread.

Another thought has suggested itself to me which I think it proper to bring to your attention at this time, and that is, the election of your officers and directors. Many of us have had experience with organizations of a commercial or social nature where much dissatisfaction existed over the management of affairs. I may not fully appreciate the advantage of the present method of electing your officers and directors, which is left largely to the delegates at the annual conventions, but I believe that a direct election by the members would insure greater interest. I have no fixed plan to suggest, and may be entirely out of order to even comment on the by-laws, which were undoubtedly carefully framed by the founders of this organization, but I recommend the consideration of a plan whereby each member is given the opportunity to select his choice for office by a ballot submitted through the mail. It would, perhaps, require three votes to make the final choice. On the first ballot each member will be asked to recommend his personal choice of candidate for the office to be voted for; all but the names of the eight or ten parties receiving the greatest number of votes will be dropped and submitted as a second ballot, upon the receipt of which the third ballot containing the names of two or three candidates receiving the greatest number of votes will be submitted for a final selection. I am sure the increased interest by the members will well warrant the expense and trouble of such procedure, each member having an equal chance—a privilege so greatly valued by the American voter—and there can be no feeling that certain interests or individuals take undue advantage of opportunities. With the widely scattered membership it is impossible to obtain a full attendance at these annual meetings, and votes by proxy do not appeal to me and may be very objectionable to many others.

The most successful organizations are usually managed by well paid men, who give their entire time to the business in hand. I do not believe I look too far ahead when I hope that this plan may be adopted by this organization in the future. While it is a distinct honor to serve as President of this Congress, most of your Presidents have been men who could only give you a part of their time, having to look after their own business, and whatever work they have done for you has been at a sacrifice of their personal interests. This work is of sufficient importance to require the undivided attention of the best talent, and that of several men.

I know your Secretary has often hesitated to ask for time of your officers, knowing the many calls made upon them.

I wish to invite your special attention to two subjects which are going to be discussed at this session and which I regard of the greatest importance; namely, the arbitration of industrial disputes and the progress of the Workmen's Compensation Committee. The former is a subject little discussed up to this time. Under our Constitution no compulsory measure can be enforced. It must remain a matter of honor between the two interests, to avoid industrial conflicts. It is not fair to ask employers to yield to unreasonable demands of employes because of any special or unusual business conditions existing, or by this denial, bring about business interruptions or even bloodshed. Likewise, is it not proper that employers should take undue advantage of their men under stress. Such actions encourage discrimination or other unreasonable attitudes at opportune occasions. Interruptions to mining do not end by affecting the employers and mine owners; the damage to the consumer and user of mining products may be much greater. I need only call attention to the expense which our coal consumers are put to every two years by storing vast quantities of coal in the face of uncertainty regarding the renewal of expiring wage agreements. Appeal to the patriotic spirit is not a cure, and it is proper that we duly consider the best solution of the subject by discussing it from every viewpoint and form some basic opinions.

State Legislation is more or less contagious—if one State considers a certain measure, and particularly one which meets popular favor, other States will endeavor to adopt it. The Workmen's Compensation Bills have furnished their share of opportunity to the spectacular politicians by supporting this popular legislation, frequently under the disguise of desiring to appear more progressive and liberal than neighboring States. Many bills have been proposed which are unworthy of the cause they represent, and modifications will be proposed at the coming sessions. There is no question but that each industry should bear the cost of its toll of life and injuries. The injured workmen or their families should not be dependent upon charity. There may be no difference between the services of a soldier who draws a pension for giving his services to his country to defend it, perhaps, only for a short time and the workman who gives his entire lifetime to build it up. The employer, to meet these expenses, must be placed in a position to

earn the cost of this protection. The schedules of compensation must be fair to both sides, else the employers will not place themselves under the Acts, which are optional and under our Constitution cannot be made compulsory. The present method of litigation is wasteful, deprives the needy at the time when assistance is of the greatest value, often giving the greater sums to those least entitled, at the expense of those really deserving. This condition should not be permitted to continue. My own opinions differ somewhat from the expressed view of our Committee, insofar as I believe the workmen should contribute a part of the cost of this insurance. It will make the plan more valuable to them. Their self interest will prevent unfair payments, because increases would have to be borne in part by themselves. Their ability to contribute can only be measured by the readiness with which the organized men pay dues and assessments, about two per cent of their gross earnings being given to the Union fund of the organized coal fields. Should they contribute an equal amount to the Compensation fund in addition to the equivalent added by the employers, we would have a fund of 3 cents to $3\frac{1}{2}$ cents per ton of coal, which is considered adequate at this time. Such contributions would entitle them to representation in the administration of the fund, which should be kept out of the reach of political influence.

The unusually depressed condition of the mining industry prevailing during the past year has required more than the ordinary attention and time of the operators and mining officers, and has prevented many from more active co-operation with our work. Your directors and officers have not been able to give as much time to the work as was hoped, nevertheless, we have advanced, and I take this opportunity to thank the directors and members for their cordial and generous support. Many promises have been made, which will be handed as a heritage to my successor in office, who I am sure will be able to convert them into cash as soon as the financial situation improves, and I feel that the outlook for The Mining Congress is more encouraging now than at any time since its organization. As to your Secretary, I can only reiterate what I stated at Philadelphia, that he has been the main-spring of your machinery and to him is due the credit for any accomplishments.

Recent Legislation Affecting the Arizona Mining Industry

BY WALTER DOUGLAS,

BISBEE, ARIZONA.

When the Territory of Arizona achieved its ambition and was admitted into the sisterhood of states, its legislators sitting as members of its constitutional convention felt it incumbent upon them to evolve a constitution which would be in nowise secondary in progressive principles to that adapted by its predecessor, Oklahoma.

To this end the XVIIIth., article concerning labor deals with certain features of social legislation which are ordinarily left to legislatures to enact.

Sec. I. of Article XXVIII directs the legislature to enact a law providing that eight (8) hours and no more shall constitute a day's work in all employment of the state or any subdivision thereof.

Sec. II. That no child under the age of fourteen (14) shall be employed in any gainful occupation, nor shall any child under sixteen (16) be employed in mines or other hazardous occupation.

Sec. III. Declares it unlawful for an employer to contract with an employee whereby he shall be released from responsibility for any injuries sustained.

Sec. IV. Abrogates the common law doctrine of fellow servant, while

Sec. V. Leaves the defense of contributory negligence, or of assumption of risk to the jury as a question of fact.

Sec. VI. Provides that the right of action to recover damages shall never be abrogated and the amount recovered shall never be subject to any statutory limitation.

Sec. VII. Directs the legislature to enact an Employer's Liability law by which the employer shall be liable for death, or injury, to an employee due to the hazard of the employment.

Sec. VIII. Provides that the legislature shall enact a Workman's Compulsory Compensation law but specifically states that it

shall be optional with the employee to accept compensation or retain the right to sue.

Sec. IX. Prohibits the exchange, solicitation or giving out of a "Black-List", and

Sec. X. That none but a citizen of the United States shall be employed upon public works.

Article XIX. Establishes the office of mine inspector and directs the first legislature to enact laws regulating the operation and equipment of the mines of the state.

The first legislature of the state of Arizona convened on the 18th day of March, 1912, and proceeded to carry out the instructions embodied in the constitution and to enact of their own volition other measures effecting the mining industry.

Considering the different laws that have been enacted in their relative importance and after over two year's experience of their operation it would be proper to ascribe the first place to the mine inspection bill.

It has been singularly fortunate for the state of Arizona that some time prior to the convening of its first legislature the American Mining Congress had appointed a committee of distinguished members to compile a code applicable to the conditions obtaining in metal mines and that the rough draft of its reports was available for the legislature when confronted with the necessity of framing a law as directed by the constitution.

With a few minor and one major exception the code drafted by your committee was adopted and became the present law under which mines are operated in this state. It is a pleasure to be able to say that state inspection instead of being a detriment, or an embarrassment, in operating, has become a positive benefit in that it has kept the management in close touch with underground conditions through the state inspector and has assisted those in direct charge by association with an outside point of view. Perhaps part of the success has been largely due to the ability, tact and helpfulness of the mine inspector who has converted prejudice and suspicion into hearty co-operation.

Next in importance to the mine inspection is the Compulsory Compensation Act. The first legislature found itself in the extremely embarrassing position of having to frame a measure of Compulsory Compensation which under the wording of the con-

stitution could only be optional. They doubtless did the best they could under the very difficult circumstances but the result has been eminently unsatisfactory to all parties concerned. Any law which leaves the question of compensation for death, or injury, to the financial soundness of the individual employer is bound to be a hardship on the employee, as only responsible corporations are in a position to meet a heavy loss through an accident. The miner who goes out to do assessment work on one of the thousands of prospects, owned by parties of small means, meeting with an injury can obtain no relief. It is estimated that not more than forty per cent (40%) of the labor employed in the state would under this defective law be able to collect damages for injuries, or death.

I think it is a fair assumption that the great majority of the employers of labor today recognize the justness of the axiom that the industry should bear the burden of its hazards; but it is only fair that the financial degree of responsibility should be defined and understood by both parties. A law which binds one party and not the other is in its very essence unfair and intolerable and can only be a fertile source of misunderstanding and distrust.

Until the constitution of the state has been amended making it possible to introduce a system of state insurance, such as that so successfully operating in the state of Washington, or a compulsory compensation bill like those of New York or Massachusetts the moneys which in the ordinary course of events would go to alleviating the suffering of the injured will serve to render the ambulance chaser prosperous and contented.

Perhaps the most pernicious law passed by the last legislature and especially aimed at the mining industry was the so-called eight hour law, which provides that an employee shall not remain underground for a longer period than eight (8) hours in any twenty-four hours. This, in the experience of the large mines of the state, means that deducting the necessary time to get to and return from the working place and half an hour for lunch the miner only averages seven (7) hours work. It is inconceivable that the framers of this measure could have believed that it would inure to the benefit of the best interests of labor. It is of that class of legislation which endeavors to throttle ambition and efficiency, to make all men of the same degree of mediocrity and to prevent ability and industry asserting itself. In the past, and

before the passage of this law, the miner or mechanic of ambition was glad to get a few hours extra work as overtime each week not only for the additional money there was in it, but in order to acquire experience in a class of labor which was impossible during hours of regular operation. The result of the passage of this law has been that the average wage of the employee has been curtailed and, what is more important, his opportunity for advancement has been materially reduced. As a commentary on legislation of this class directed at a single important industry it might be proper to mention that of the 54 members of the first legislature but 7 of them could be by the most liberal construction classed as representatives of mining or had any practical knowledge of the industry.

It would be improper in this brief review of recent legislation as applying to the mining industry to dwell at length on the law enacted by the first state legislature for the taxation of mines, as this subject will be fully discussed at the meetings of the Congress.

In conclusion, therefore, it is a fair assumption, which is borne out by actual experience, that ill-digested legislation such as that above cited has not been of financial or moral benefit to the wage earner but has served to embarrass an industry on the material prosperity of which this state to a large extent depends. A prolonged period of great depression faces the copper producers and only mutual co-operation and wisely considered measures can succeed in preventing great suffering in the mining communities through further restriction in the copper output.

The First Move

BY W. G. SWART,
DENVER, COLORADO.

We have recently been hearing that something is wrong with the mining industry; that the mineral output does not keep pace with the demand; that the good mines are rapidly being worked out; that prospecting is a "lost art"; that engineers will not recommend prospects; that money for development is not to be had, and that only developed properties can be marketed.

I am not going to say these assertions are wholly false, because the statement which opens this discussion is true—there does seem to be something wrong with the mining industry—but I do not believe the other statements will bear the light of careful investigation. The mineral output does keep pace with the demand. Metal prices and statistics prove it directly, beyond question, except in the case of gold, and since the price of gold must be measured indirectly we can only say that it seems also to be true of gold. It certainly is not true that all the good mines are worked out, neither is it true that prospecting is a "lost art," that engineers will not recommend prospects, that development money cannot be had, nor that only developed properties can be marketed. Any or all of these things may be true in individual cases, but in the aggregate the situation seems better than ever before. We are simply facing changed conditions and the old order is passing.

Mining must undoubtedly depend ultimately on prospecting, and like every other activity prospecting has had to change its methods. The man Arizona knows as the "desert rat," with his little grugstake and his burro, was in his day the efficient prospector, but his burro cannot now compete with the automobile nor can he himself compete with the younger and more energetic men who drive the machines. They are the real modern prospectors, and if you will stop a moment and consider you will be forced to admit both the increasing number of such men, and their influence on result. Some of these men are trained engineers, but many are not, and the statement that engineers will not recommend prospects

almost answers itself—it makes little difference, so long as a body of active and intelligent young men is constantly discovering prospects and turning prospects into mines. It is also plain enough that some one is furnishing the money for this work. This leaves partially open only the statement that none but developed properties can be sold. Arizona again furnishes an answer. It is not necessary to go beyond her borders to show that some of the largest and best properties in the world have been bought, developed, equipped and put into operation within the past ten years. Does anyone question the willingness of the men who did this to repeat their successes, or the willingness of others to emulate them?

The real point to be noted and emphasized here is that these are the large things, the spectacular things, the unusual things, the things requiring enormous capital.

They are not the things requiring discussion here. We may take it as a firmly established fact that the really big things will continue to be handled by the really big men with their big resources. But the prosperity and stability of the mining industry depends, in the last analysis, just as much on the smaller enterprises, and it is with these that most of the complaints seem to originate. Is there then a chance for the smaller mining operation? Can it be made attractive, secure and profitable?

Let us consider for a moment the distinction between prospecting and developing. There seems to be a very general impression that the lucky prospector finds a mine ready made. What he usually finds is a "prospect," which is simply the surface indication of possible ore beneath. It generally takes both time and money in liberal amount to ascertain even its chance of possible value, and this is called developing. Developing is the department of mining where the greatest risks must be taken, and where, incidentally, the greatest rewards may be expected. It is distinct from prospecting, and is even more important, but the distinction is not well understood by the public at large. Mining is much more apt to suffer from lack of development than from lack of prospecting. Development funds come from a variety of sources, not necessary to enumerate here. They may, however, be separated into two general kinds—pure speculation and distributed risk. Unquestionably the larger part of development money has gone into the ground as pure speculation whether its owners knew it or not, and

like most other speculations, the proportion of losses have been exceedingly high. The distributed risk money has done far better but has not been so widely applied to smaller operations. Distributed risk is merely an application of the old adage "Don't put all your eggs in one basket." Mark Twain criticized this policy, saying through the lips of one of his best known characters that it seemed better to "put all your eggs in one basket and *watch that basket.*" From the published list of mining stocks included in his estate it is evident he found it difficult to properly watch his basket. In reality his difficulty lay not so much in watching the basket as in selecting both the basket and its contents, and it seems to me it is the proper selection and handling of mining enterprises that most needs our consideration.

We all know that mining is made a solid, substantial and profitable business by the larger organizations. The very best talent is employed and the utmost care used in the selection and management of property. As many selected risks are assumed as can be obtained on suitable terms up to the financial limit of the organization. This is the distributed risk plan at its best, and few such concerns have ever failed from legitimate causes.

For a number of years the feeling has been growing among men qualified to judge that similar methods might be applied to smaller operations. The idea of local mining or exploration syndicates is not new—they have operated for years with a fair percentage of successes. A syndicate of Colorado lawyers, under good technical advice, took several million dollars out of Creede and Cripple Creek. A syndicate of school teachers in another state, paying into a working fund from \$5 to \$20 a month each, made over \$200,000 in five years. It is easy to multiply such illustrations but we should also not forget that there have been many failures—far too many—arising both from general and local causes. It will occur to your minds immediately that the success of one such organization in a community ought to cause others to spring up with similar aims and hopes. It does. But the possibilities are usually seen and grasped first by the irresponsible promoter, and in the excitement of the public mind the real merit of the plan and the real reasons for its success are lost sight of with much unnecessary loss. This has happened and will continue to happen, but there is an obvious and adequate remedy, and it is the appli-

cation of this remedy which I have had in mind in entitling this paper "The First Move."

I believe the first move is a very definite move which must be systematically made in each community by those best qualified to make it, and they are the trained mining engineers and operators. I do not mean necessarily the graduates of mining schools, but just what is said—the trained mining men. They must do what they have consistently done in the past—take the initiative and assume the leadership that is properly theirs. They must direct mining investment, instead of only advise concerning it.

In spite of all unfriendly criticism of pretensions to see underground, use of yellow leggings or partiality toward offices in the high buildings, the fact remains that nearly every successful mining operation of consequence, old or new, is today in the hands of experienced, technically trained men. These are the men who select, who reject, who discriminate, who decide on the place, time, direction and amount of expenditure, and who plan and execute the work. No man does these things for any considerable time successfully without becoming a business man of a high order. Leadership is his by every right, but unfortunately he has not always chosen to accept it and turn it to best account, even when possible. Let me illustrate what is possible. In one of the classes recently graduated from a certain mining school were four young men who resolved to pool their efforts and go to mining directly instead of accepting salaried positions as assayers, surveyors, etc. At the end of five years they are in far better financial condition than the average of their classmates, they have had more real experience, and they understand what accepting responsibility means, but above all, they stand absolutely at the head of mining affairs in their community and are reaching out steadily for larger things. They have made good, and in making good they have secured an unhesitating local following in every mining enterprise they will take over. This is the kind of leadership I have in mind. No irresponsible promoter can capture that community.

The one necessary thing is to guide and systematize local activity, and it can be done properly only by the trained men. They must first show confidence in themselves, then build up the confidence of the community in their ability, integrity and unselfishness, and the rest is easy.

Another illustration of results actually achieved: A company

of ten engineers was recently organized in Colorado, with modest capital, and this company is already successfully operating selected property along these very lines. When these men began systematically to put faith behind their works and money behind their judgment, they took the first necessary step. They have already secured the confidence and following of the communities in which they operate. No one believes either that ten experienced men can be seriously misled or that they will ever adopt anything but a policy of absolute fairness and integrity. Every one believed they would win, and they have.

While this is not the place for details, it may be well to point out briefly several interesting features of this first move.

1. The proposal is not that the movement be restricted to mining engineers and operators—simply that it must be organized and directed by them.

2. The movement probably cannot succeed without the confidence and co-operation of the business and professional men of the respective communities. Mining has usually been only a side issue, an incidental, a speculation, if you like, with most such men. Investing without proper guidance, their activity has been spasmodic and unsatisfactory.

3. The movement must not only be started but be made systematic and continuous, otherwise it has no real future.

4. The organizers must be prepared to make sacrifices of time and energy, to say nothing of money, and to sink any petty professional jealousies; but at the same time the idea must not be allowed to creep in for one moment that it is in any sense a philanthropic move. There can be just one underlying aim, and that is to make mining pay.

5. No such organization can hope to succeed permanently which does not propose to be fair and more than fair to its non-technical associates and stockholders. The plan rests solely on confidence in the ability and fairness of technical men. It is useless to start on any other basis.

6. It is not expected nor necessary that every engineer and operator take an active part in such an organization. Some are overburdened now; some are honorably bound to organizations already existing; some are more efficient working alone, but there is

plenty of available material in every mining district, in every western city.

7. It is a "get together" plan with indirect as well as direct benefits.

8. It requires no large amount of capital. It is better to start modestly and well within the means of the primary associates. It is particularly necessary to assume no financial responsibilities beyond the actual capital in sight. Success in even the smallest way brings possibilities of growth far faster than they can be properly cared for. A good set of brakes is much more essential than the high gear.

9. The mining men will have to start this themselves. No one is going to do it for them. No one ought to do it for them.

You will realize that this paper is not an inquiry into what is wrong with mining. It suggests that if something *is* wrong with mining here is one constructive remedy. It is a workable plan, whose details will of course vary with location and conditions, and it is already in successful operation, but it is possible only to a body of trained men. Undoubtedly there are other good methods, but as I see the situation, the underlying idea must be the same in all. The qualified mining men ought to be in better control of the industry than they are, and they can be, but the first move is theirs.

The Leasing System and Conservation

BY JESSE KNIGHT,

PROVO, UTAH.

Mr. Chairman, I appreciate very much the honor but at the same time I do not feel competent to lead this discussion. That man from Texas (Dr. Phillips) spoke my mind so much better than I can myself that I feel very incompetent to say anything. But I have a few ideas, gained through experience, in regard to the leasing question especially. I do not believe in it at all, from any point, either for the state or the government, especially the government. I think if they are going to lease, each state ought to do its own leasing. I think they know better how to handle it than the government does. They are closer home.

I suppose this was intended for a general discussion on everything that is bad. The leasing of power sites in these little mountain streams here in the West, to me, always looks like the most ridiculous thing I could think of in the way of conservation. The streams are going to waste, and so long as we do not interfere with irrigation, and we do not need to in most cases, we should be permitted to drop the water above the farms and harness up little mountain streams and thus do a great good with them and develop the country. Those streams are going to waste, and perhaps will go to waste forever, but when they lease them it hinders the progress of the country. It seems to me it might be just as well to conserve the air we breathe and call it conservation as to conserve these mountain streams. I have been in the power business in a small way. In the first place we harnessed a little stream in Santaquin, Utah, to take power over to the Tintic mines for our own use. We found quite a good deal of difficulty in getting a right of way. It took about six months after we were ready to start work to get the right of way—red tape in dealing with the government officers—for our pipe line and to set our poles, etc., which makes it rather exasperating. Then when we got one little plant over there we found that we needed more for safety and protection, as we found by experience that one little plant didn't do us much

good, as the electric storms would put us out of business. So we continued until we built five little power plants, and then we found that we were leasing in competition with people that didn't have to lease. The Telluride Power Company, for instance, in Utah, had its rights beforehand and had titles to its holdings, and it was not a lessee, and of course, being suspicious, as I am, I was fully convinced that the men who got up that bill to make lessees of everybody else did it to head off competition for themselves. I think that men sometimes do things as bad as that. If you compete with them they don't like it. They might have done it for that reason or they might have made people believe it was conservation, but I fail to see where it comes in. I never could see any sense in calling it conservation of water power sites. I cannot conceive of such a thing as conservation under that guise. I suppose others can, but I have never heard any of them explain how it would conserve anything. The more it would be used, of necessity it would save coal, but to leave it go to waste forever, how could it conserve anything? As I have said before, I haven't heard anybody explain how it conserves natural resources, but that is the pretext they do it under, to prevent monopolies from having too big an interest in a certain thing, I suppose, and they fool the people right along. Most of these leases and conservation ideas hold projects back from the common people until the big fellows get ready to use them, in my judgment. Now, I will tell a little story that will apply, maybe, to what I want to say. When we built our first little power plant there was an old Englishman who had an irrigated farm below, and he protested against our use of the water. We told him that we would drop it above all the farms and they could use it just the same, and we would save water for them. It was running three or four miles through loose gravel beds and sand before it got down to their headgates. The farmers protested quite vigorously, but of course they couldn't prevent us, and when we got permission from the government we went ahead and built our pipe line along the side of the hill, and we furnished them at the headgates just twice the water they formerly had in low water season. The old Englishman still was not satisfied, and he said, "Well, what good is it when you take the electricity all out of it?" (Laughter) From my viewpoint there is about as much common sense in the conservation idea as relating to power sites, as there is in the old man's valuation placed upon the water after it has run over the wheel. The laws

regulate how we can hold them; we cannot hold them without using them, and to take them off the market in some instances and lease them in other instances seems to me to be the clearest fraud ever heard of in the name of conservation.

Now, in regard to the taxation of mining property, on which we pay a fuller tax than is paid by almost any other business in the country: In the State of Utah, where I live, in the first place, we pay the taxes on the price of the land that we pay the government, and we pay the government a larger price for the land than most people who get lands from the government for other purposes, and until we find ore, how can it be worth any more than what we gave for it? I fail to see why they should want to tax it any more than the government charged for it until it is shown that it is worth more. The net proceeds tax seems to me to be the very best law that could be got at to make the miners pay their equal proportion of the taxes; then we cannot get around it. We pay our full quota of taxes in every sense so far as I am able to see.

I am not used to expressing my ideas, only in my own way, and I am not competent at all to make a talk on the floor any place; but I admire that man from Texas, and he expresses my sentiments better than I do.

I thank you. (Applause.)

Federal Legislation for Alaska

BY FALCON JOSLIN,

CHAIRMAN OF THE ALASKA COMMITTEE OF THE AMERICAN MINING
CONGRESS,
FAIRBANKS, ALASKA.

The year 1914 marks a new era in the history of Alaska. Three Acts of Congress of the highest importance to the territory were passed and approved. These were: First, the Act authorizing the President of the United States to construct approximately one thousand miles of railroad at a cost not to exceed \$35,000,000; second, the Act repealing the existing laws for the sale of coal lands in Alaska and providing for the leasing of such lands in the future, and third, the bill reducing taxation on privately-owned railroads.

The policy disclosed in these bills shows a very wide departure from all former plans of the government. The scheme and policy for the development of the public domain since the very beginning of the nation has been to grant to citizens a fee simple title in the soil with complete and independent ownership. In railroad development from the very first, the policy has been the encouragement of private enterprise and private ownership of the railroad lines with governmental aid for pioneer lines in their inception and during their infancy. There was indeed in the earlier years of management of the public domain some attempt at establishing a leasing system, particularly with reference to lead mines, but after some years of experiment and failure, the leasing system was abandoned. In the beginnings of railroad development there were also some experiments in state ownership as well as some experiments in national construction of highways, but these experiments were all abandoned. About ten years ago during the first "reign" of Roosevelt the idea was started that these old and well-tried policies of the government toward the disposal of the public lands were all wrong. Private ownership and control of the great railway highways of the nation was also subjected to criticism and hostility.

It happened that just at this time the great domain of Alaska was beginning to attract attention and immigration. This vast

territory of nearly 600,000 square miles had been supposed an arctic, ice-covered waste, and useless except for furs and whaling. The discovery of enormously rich bonanza gold fields in different localities attracted many thousands to Alaska and its development began with a rush.

In the decade between 1890 and 1900, the population gained more than 100 per cent. It was discovered that the territory was not only valuable for furs, but contained amazing stores of gold, copper and coal and its waters contained a most abundant supply of fish. Railroad building began in 1898. Dozens of railroad lines were projected and surveyed and in the succeeding ten years nearly 500 miles were constructed. The law relating to the disposal of coal lands which prevailed in the western states was extended to Alaska, modified somewhat, but still in principle the same. This law was in effect that the government offered its coal lands for sale to any citizen in tracts of 160 acres at the price of \$10 an acre, the applicant himself to pay for the cost of surveying the land, all of which was unsurveyed. Under the provisions of this law approximately 40,000 acres of coal land in various localities were applied for by several hundred different citizens, surveyed by them at their own expense and purchased from the government and paid for. Nearly \$400,000 in cash have been paid into the treasury of the United States as purchase price of these coal lands. Perhaps another \$200,000 were spent in surveys. Probably more than a million dollars additional were spent in the exploring, buildings, roads and other development.

There was every indication that the development of Alaska was going forward in the same manner and along the same lines that the great western frontier of the United States proceeded. But the new policies which have been mentioned were also gaining headway and in the year 1906 resulted in the issuance of executive orders which very promptly brought this development and progress to a standstill. Railroad building ceased. The proposed opening of coal mines immediately stopped and some mines which were already opened closed down. There is not a coal mine operating in all Alaska. The development of the oil fields also came to an abrupt end, except one claim, fee simple title to which had been obtained before the executive orders were issued. The executive orders referred to were those issued in November, 1906, supplemented by various orders during the next few months withdrawing all land in

Alaska containing coal from sale or entry. These orders were ratified by later orders in 1910. The fact that these orders were wholly without authority made them none the less effective. For in matters relating to the administration of the public lands, full authority rests with the Executive Department of the government. The courts have no jurisdiction either original or appellate. The citizen seeking to acquire public land has no right of access to the courts.

The policy and purpose of these orders was quite clearly expressed, although not in the orders themselves. Their policy was to change the system of disposal of public coal lands from the freehold to the leasehold system. Such a change constitutionally and regularly could only have been brought about by the action of Congress through legislation. At that time, however, Congress had not awakened to the enormous advantages of the leasehold over the freehold system, while the Executive Department had. One of the executive orders, the one indeed which has been in effect until the moment of the approval of the present leasing bill, naively declares that the orders were issued "in aid of legislation." Thus in addition to the executive and judicial powers the executive now assumed also the legislative power. We now have the Act, approved October 20th, 1914, to provide for the leasing of the coal lands in the Territory of Alaska and for other purposes, as the ripened fruit of this new policy.

The Act to authorize the President of the United States to locate, construct and operate railroads in the Territory of Alaska, approved March 12th, 1914, is the result of this new policy with reference to railroads.

More than three years ago it became quite clear to your Alaskan Committee that no progress could be made toward the opening of Alaska except by yielding to the demand for the change of policy above indicated. The growth and development of the territory had practically ceased. During the decade between 1900 and 1910 the population had gained less than 2 per cent. The railroad mileage which had been built, comprised in seven or eight separate lines, was without exception unprofitable. Upwards of thirty millions dollars had been invested in these railroad enterprises. The two or three hundred men who had bought and paid for coal lands were unable to get any title thereto. Indeed the policy of the Executive Department was not to decide the cases one

way or the other. Nearly two hundred of them had been subjected to criminal indictments, most of which are still pending. A few were brought to trial and promptly acquitted. The case of the Alaska coal claimants is probably unparalleled in the history of the nation. They surveyed and bought the land at the price at which it was offered and paid for it. But though the government took their money and gave receipts for it, it refused to give them title, at the same time retaining their money. On top of this they criminally indicted the greater portion of them for attempting to buy land at the price at which it was offered for sale.

The infant and struggling railroading enterprises which in the western states, under similar circumstances had been subsidized by government loans and land grants, in Alaska were subjected to excessive taxation and even the control of their management was brought under the Interstate Commerce Commission, which in a large measure takes the control away from the owners.

Under these circumstances, it is not to be wondered at that any further capital could not be induced to go into Alaska. It became evident that if the territory was to have railroads at all, the government itself must build them. Your committee, therefore, in 1912 drafted a bill containing a plan for the construction by the government of not to exceed one thousand miles of railroad in Alaska. Hearings were secured before the Territories Committees of Both House and Senate and the plan and draft bill was presented. It met with favor and the Senate Committee introduced the bill as a committee bill. Though the bill was not passed, a Commission of Engineers was authorized by Congress and appointed by the President to go into Alaska and report upon routes and other matters relating to railroad development of the territory. This commission duly reported in January, 1913, and new bills were introduced in substance and effect the same as the former bill which had been prepared by your committee.

Very fortunately when the Democratic administration came into office, Secretary Lane and President Wilson took up the subject of railroad legislation for Alaska and made the bill an administration measure. The bill met severe opposition in both House and Senate, but finally overcame all opposition and became a law. The greatest praise for its success belongs to President Wilson and Secretary of the Interior Lane, without whose powerful influence the measure could never have been passed. Your committee, ably

advised and assisted by Secretary Callbreath, worked unceasingly for the measure through three sessions of Congress.

Theoretically, government ownership of railroads is an ideal system. Capital supplied by the government is obtainable at about 3 per cent interest, whereas supplied by bankers or private individuals it would cost at least 6 per cent. The saving in this item alone on \$35,000,000 of capital amounts to over \$1,000,000 per year. The power to make and sustain low rates in the beginning and thereby to encourage the rapid development of the territory served, is another very great advantage of government ownership. Against these advantages must be set off the fact that in government ownership, construction and operation will probably be more expensive than in private ownership. The bill, however, provides that the line, or lines, when constructed may be leased, in fact, shall be leased in case a satisfactory lease can be procured. Under the system of government ownership with operation carried on under lease, there is no reason why as high degree of economy cannot be obtained as may be had under private ownership.

The bill also authorizes the President to either construct the lines on force account, or let the construction by contract. If the construction work is taken under contract, there should be as high a degree of efficiency and economy as if the roads were built by private owners. The bill very wisely, as it seems to your committee, has given the President the widest and most complete power. There is practically no limitation upon his power except that he shall not contract for more than \$35,000,000 worth of construction, the appropriations for which must be made annually by Congress.

The selection of routes, always the most troublesome point in the building of new railroads, is left entirely with the President. This indeed was the great point which brought success to the bill. Unless the discussion of the various routes could be avoided, no measure could hope to pass Congress, except after years of debate and struggle.

It should be said that some votes were cast for the bill in Congress by those who were hostile to the principle of government ownership. They thought that Alaska would be the most difficult field for the experiment and that it would therefore show that government ownership will be a failure. Whether it is a failure or not depends upon the administration of the law.

Your committee feels that the American Mining Congress, having taken such an active interest in the origin and passage of the bill, is now bound to do all in its power to assist in its working out.

Undoubtedly there are many disadvantages in government ownership. For example, the encouraging of emigration by advertising and other means usually employed to increase population will be difficult for the government. The exploiting of mineral and other resources for the building up of traffic and the extension of spurs and branches cannot be well done by the government. But none of these disadvantages are such that they may not be overcome by careful and earnest effort.

The political aspects of government ownership is probably the most risky and dangerous of all features of government ownership. Whether the selection of routes and of personnel, the granting of contracts, the making of rates and the operation of the property, can be carried forward under government ownership free from political influences of fear or favor, is a highly important question in the working out of the law.

The work has already begun; a Commission of Engineers has been appointed by the President who have spent the past season in Alaska in making surveys and who will shortly make their report and recommendations. It is to be hoped that construction will begin during the summer of 1915 and that prosperity for Alaska will follow immediately.

THE COAL BILL.

Three years ago the Alaskan Committee of the American Mining Congress, though all without exception opposed to the principle of leasing coal lands, nevertheless drafted and supported before Congress a bill for leasing coal lands in Alaska—not that it believed in the principle, but that it was the only way to get action.

When the bill which has now become a law was first introduced in the Congress which has just expired, your committee considered it a reasonably fair leasing law. Members of your committee being called upon appeared before the House Committee on Public Lands and supported the measure, providing certain amendments were incorporated in it. When the bill was reported from the Public Lands Committee of the House, it was in such condition that your committee felt its passage would be an outrage and made

every effort to secure its amendment. Many of the amendments proposed by your committee were adopted and incorporated in the Act; others were rejected.

One of the most vicious things in the measure is the provision that deprives any of the existing coal claimants of the right of access to the courts. The bill proposes to lease the identical lands which the government has heretofore sold. It is the law that a citizen may not sue the government, but it also is the law that if the government sells a tract of land to a citizen and afterwards attempts to transfer the same tract to another citizen, the first purchaser may bring suit against the second when he enters into possession and thereby get judicial consideration of his right in the courts. If the first purchaser's right is decided to be superior, then the second claimant will be declared by the courts to hold the land as trustee for the first purchaser and be required to yield up possession and title to him. Congress, with the cunning device contained in Section 13 of the bill, proposes to legislate the Alaska coal claimants out of this right of access to the courts. It will probably prove futile, but the malignant purpose is no less discouraging. It should not be forgotten that murderers and the most abandoned criminals are entitled to their day in court. It is probably the first time in the history of the nation that Congress has attempted, with conscious purpose and design, to deprive its citizens of this right. Always before the spirit has been to give every citizen the right of fair hearing in the courts and full right of appeal. It will not inspire confidence in those who are invited by the bill to take leases in the future. If their predecessors who bought and paid for the coal lands are to lose their improvements, and suffer the ignominy of criminal indictment and finally be deliberately legislated out of their right of trial by, or appeal to the courts of the land, it may well make prospective leasers pause before they venture to invest large capital where such things can be done and go unrebuked. However daring the men who go to Alaska, the capital that hereafter is invited there must be timid with such a record before it.

However, no new and novel propaganda to change the laws is at present afoot. The building of the railroads and the arctic climate will be powerful arguments in favor of opening coal mines and your committee earnestly hopes that the leasing law will work as well as its most vigorous supporters have hoped.

Conservation of Mineral Resources; State or National?

BY DR. WILLIAM B. PHILLIPS,

AUSTIN, TEXAS.

During the last years a great deal has been said and written concerning the conservation of our mineral resources. There has been a widespread awakening of the public interest and, one may add, of the public conscience on this subject.

It has been treated from practically every standpoint, so that it would not appear to be an easy task to discuss it further.

In spite of this, however, and largely because of it I venture to tax your patience in an effort to set forth what, to me, are the fundamental principles of this matter.

There are three things to which your earnest attention is requested; these are as follows:

First—There can be no conservation without systematic development.

Second—There can be no real conservation without recognized and regulated authority.

Third—There should be no conservation that does not press equally upon all concerned.

Conservation has three things to deal with, development, regulated authority and equality.

We do not conserve our mineral resources by the enactment of laws which, in effect, are prohibitory, nor do we properly develop them by loosely drawn and insufficient laws. Development that does not develop is worse than conservation that does not conserve, for it closes the only door through which we may enter upon a wise conservation.

Our mineral wealth must be developed for our own use and benefit, with due regard to the needs of those who are to follow us.

The conservation of undeveloped resources is a contradiction in terms. It is worse than this, for it distracts attention from the main issue and substitutes for it an idea which has no sure foundation. The real value of an undeveloped resource is

a thing which no one has yet been able to elucidate except in the light of a similar resource which has been developed under fairly comparable conditions.

There are communities and even entire states that are today hoarding their undeveloped resources without knowledge what they are. This is one of the commonest experiences of the capitalist, the mining geologist and the mining engineer.

"Why, sir, the resources of this state (county or district, as the case may be) are perfectly enormous. There is enough iron ore in our hills to supply a thousand furnaces a thousand years. Enough gold and silver to pay off the national debt. Enough copper to copper-plate the sun, moon, stars and other flag stations of the universe. Enough oil to grease the wheels of Time and lubricate the mills of the Gods that grind so slowly. Enough natural gas to consume the earth and leave of it only a pile of sinter, surmounted by a salamander."

Who of us has not heard such eloquent descriptions of undeveloped resources? And who of us has not found, to his cost, that the gas was the only thing that had been developed?

We are sometimes disposed to think of conservation as a thing separate from development, as a thing that can be considered on its own merits. We say that such and such resources should be conserved, but how can they be conserved if they are not developed? How can one conserve a resource whose development is not yet within the sphere of commercial activity? We do not conserve a pair of boots by greasing them and putting them away in the closet, nor do we conserve a mineral resource by refusing or neglecting to develop it. If there were a more systematic and a wiser development we should hear less of conservation and of the intricate and delicate questions that lie on the borderland between present emergencies and future probabilities.

What we need, the country over, is not less conservation but more development, not less of the spirit of saving but more of the spirit of giving, the giving of our time, our means, ourselves to the task of building a prosperous, far-seeing and economical nation.

It is not to be denied that in some cases improper development has caused conservation to assume the guise of necessity, but, taking the country as a whole, we are today in far more ur-

gent need of development than of conservation. Furthermore, the insistence upon conservation has, in some instances, retarded the development upon which our prosperity must be based. We have put the cart before the horse, much to the discouragement of that worthy animal.

The threatened depletion or exhaustion of the mineral resources of the country upon which our rank as a nation must depend is much less serious than some of our friends would have us think.

Take, for instance, the coal resources of the country. According to the best information available the total coal area in the United States is 373,000 square miles. The original supply of coal is thought to have been about 2,750,000,000,000 tons, of which 11,000,000,000 tons, or 0.4 per cent have been removed.

If we allow that that original supply was one-half of such estimates as have been made and that the exhaustion has been twice as great as we have reason to believe we still find that we have no appreciable demand upon our coal supplies.

Perhaps more has been said as to the conserving of our coal supplies than almost anything else. In the very nature of our circumstances we make a greater demand upon such supplies than upon any other mineral resource and this demand increases year by year. But we do not find that we have exhausted the supply to an appreciable extent. In parts of the country and with special kind of coal it may be that the principles of a sound conservation do now apply, but that they apply to the country as a whole may well be doubted.

If there are portions of the country that are suffering from lack of conservation there are far greater portions that are suffering from lack of development. If there are cases of deplorable waste in some of our mining operations there are multiplied instances of a far greater waste through undeveloped resources that would contribute to our prosperity.

We must preach the doctrine of a wise development, for, in that case conservation will take care of itself. I do not decry conservation that really conserves. I merely point out that development is for us now the far more important consideration.

We come to our second heading; there can be no real conservation without recognized and regulated authority.

We enter at once upon some of the most important questions of state and national administration.

If we allow that self interest does not and will not impel us towards a wise conservation we can hope for it only through governmental control. There is no use in blinking at this for it confronts us inexorably. If the natural laws of profit and loss are not sufficient to cause us to protect ourselves and our children we come surely to the more or less artificial laws of human enactment and execution.

Before we face this emergency and have to deal with it we must decide whether it would not be better for the growth of a self-reliant citizenship to work out our own salvation with as little help from the government as possible.

The wisdom of government is the wisdom of the people who compose it. We do not enlarge the intelligence or add to the wisdom of a man by electing him to office, or making him the Chairman of a Commission, or the head of a Bureau. We may increase his sense of responsibility, but this does not necessarily imply that he knows more or can use his knowledge to better advantage. It is not so much what he knows as what he should know, not so much what he does as what he should do. There is many a man who is busy all day and half the night, but whose activities are those of a child writing his name in water. Activity is not to be confused with usefulness. If, as State or Nation, we are to enter upon a real conservation we must do so with our eyes open and with a full realization of what it will mean. I do not approve or condemn such a course, I merely say that we must know whether what we propose to do is worth doing and, if so, how to do it.

If we are to set a minimum price for a barrel of oil, by law, it is but one step and that an inevitable one to controlling, by law, all of the agencies concerned in the production and distribution of that oil. If we are to disregard the time-honored law of supply and demand and substitute for it some human contrivance that seems to appeal to our present needs we must accept the consequences of our action. It is oil today, copper tomorrow and lead next week. Also, if the owners of that oil refuse to sell it at the price named there is no way of disposing of it save through the agency that fixed the price, viz., the government.

It is quite beside the mark to say that a combination of in-

terests may, by wholly artificial means, increase the price which the statute seeks to lower, for the price, in the long run, is fixed by conditions over which no special interest or combination of interests have any control whatsoever.

If the government, under the guise of law, can fix a minimum price for a mineral product it can also, under the guise of law, increase the price. But no government of the kind we have in this country has yet been able to force producers to take less for their product than it is worth or to force consumers to pay more than it is worth. It might as well undertake to pass laws regulating the obliquity of the ecliptic, which would be a shameful thing to do, even in times of profound peace.

There are some who say that we have already departed from the old conceptions of the powers of a republican form of government and that we are now doing things that the founders of this Nation did not contemplate or provide for. Be that as it may. But so long as we hold to a government of the people, by the people and for the people we need not exercise ourselves over purely academic questions. It is a case of allowing the dead to bury their own dead.

If there is to be recognized and regulated authority for the conservation of our mineral resources it will be because you and I ask for it.

If there is to be compulsory arbitration of industrial disputes—a matter closely connected with both development and conservation—it will be because you and I ask for it. If there is to be state or national supervision of our resources it will be because you and I ask for it.

No one is to force these things on us. We take them or reject them according to our best judgment. If we are willing that the government should do things for us that we have not done for ourselves it will do them, but we must bear the cost. We must remember that conservation—which looks towards the future—cannot be separated from the development of the present. If we are to turn over to the government the conservation of our mineral resources we turn over to the government the development of our mineral resources. Private and corporate money may still be expended, but the determination of the necessity for the expenditure will be in the hands of the government—our own government, if you will, established and maintained by ourselves but still the government.

There seems to be no escape from the logic of the situation.

In so far as concerns certain phases of the matter it will make no great difference whether the regulating power is state or national, but it may be submitted that the conservation of resources which affect our standing among other nations is for our consideration as a Nation, not as a Union of States. It is when we speak as a nation that we receive attention. It is the Spirit of the Nation that thinks, decides and executes. We are comparable to a hive of bees among whom, as Mæterlinck has so beautifully shown, it is the Spirit of the Hive that determines the course of action.

Here, however, we trench upon matters that do not particularly concern us at this time. One may refer to them merely to point out that national conservation is a thing apart from conservation among or by the several states.

It has been held by the supreme court that the power to prevent the transferal of mineral products from one state into another state does not reside in any state. There may be a depletion of the resources of a state by such procedure, but it cannot be prevented by state legislation. This is a far-reaching decision, especially when we reflect that the exportation of mineral products is a national not a state matter. We export as a nation, not as separate states or an assemblage of states.

Finally, there should be no conservation that does not press equally upon all concerned.

If our coal resources are to be conserved so must our resources in iron, copper, silver, lead, zinc, oil, natural gas, etc.

We may not single out a particular industry and begin to conserve it without, at the same time, taking into our view the conservation of other industries, similar or dissimilar.

If, as a state or nation, we decide that such and such resources are being depleted too rapidly now there will come a time when the same decision will be made with respect to other resources.

The power to conserve one is the power to conserve all. The power to fix the price for one mineral product is the power to fix the price for all mineral products. Furthermore, in this general power there are included minor powers, such, for instance, as the compulsory arbitration of industrial disputes which, in effect, is

the power to regulate wages, the determination of inland freight rates, with which we are already familiar, etc.

It is just possible that we have not sufficiently considered what conservation really means. It means governmental control over agencies of production which we have not been able to control ourselves to the best advantage. This control, to be thoroughly effective, must be exercised either by the state or by the nation, the one or the other, not both, separately not conjointly. Partnership of authority, in matters of this kind, is not likely to work out to the satisfaction of either party.

There may be co-operation in work but there cannot be co-operation in authority, if we are to attain the best results. There may be advice and suggestion, more or less pertinent, but the final decision must be with some man or set of men representing one source of authority.

Whether or no we are ready to do these things remains to be seen but I take the liberty of pointing out the direction in which we shall probably travel if we make a start.

Industrial matters today represent so complicated a system of production, distribution and sale that we can hardly touch one part without affecting other parts. This is true not only of our own country but of all the trading world. We are knit together in bonds so intimate that it is difficult to select a single natural resource that is free from this universal law of interdependence. The development of any great material resource is felt over the entire world. It is for this reason, among others, that the extension of the power of government, whether state or national, should be scrutinized with the utmost care.

Let us not be hasty in this matter.

If it is best that we do this thing let it be done only after every factor has been weighed and every condition given its true value.

The American Mining Congress is composed of men who represent the development of our resources as a nation. It concerns itself with matters of national importance rather than with those of a more restricted character. Its discussions take a wider view and its decisions are based on broader foundations.

We do not meet as citizens of a state but as citizens of a nation whose sole purpose should be to consider, in fairness, patience, intelligence and hopefulness matters affecting the welfare of the entire country.

What Must Be Done to Stimulate the Mining Industry

With Special Reference to Western Mining and the
Protection of Mining Investors

BY E. P. SPALDING,
SPOKANE, WASHINGTON.

The mining industry is one of the great legitimate basic industries of the country, as well as one of the most profitable. To maintain it as such, prospects and undeveloped mining properties of merit must be developed and means for financing the development work devised.

Some one has said that mining is the greatest basic industry of the world, as well as the oldest, next to the industry of raising babies. Not being an expert in this latter industry I shall confine my remarks to the next oldest, the mining industry.

The demand for developed mines and mining properties, at prices affording good profits on the development investment, is large and constantly increasing, whereas, there is a constantly increasing shortage of such developed mining properties. On the other hand there are numerous prospects and partly developed mining properties which merit development to a greater or less extent under intelligent, skillful and conservative management.

The owners of these prospects and partly developed mining properties are usually men of limited mining experience, and lacking the necessary means for the development of their properties to a point where they can be sold to the large mining concerns, or operated as going profitable mines. These large mining concerns will rarely undertake the development of prospects into mines, preferring to await the full and complete blocking out of the ore bodies and paying a much larger price for the same than they would have to pay upon a development basis plus the cost of development.

With these conditions prevailing, namely, a large demand for developed mines on the one hand, and on the other hand an almost absolute lack of developed properties with which to fill this demand, the question naturally arises, "what are the underlying causes, and why is money for development hard to get?"

To my mind there are a variety of causes for these conditions. They involve the prospector, the wildcatter, the mining engineer and the mining capitalist.

The Prospector: We have all listened to his story many times and have patiently inspected his glittering specimens and high grade assays, and frequently have gone with him to inspect the "10-foot vein of ore which the specimens and assays represent an average, and if anything a little poorer than the average", only to find once more that the imagination was greater than the facts. If, perchance, he has really discovered an ore body of merit and has done sufficient work on it to warrant development on a more extensive scale, he usually demands the price of a fully developed mine and shows his faith (?) by demanding terms that not only are not warranted, but are foolish from a business point of view. Hence he is unable to do business with serious responsible people, nor does he get his prospect developed. On the contrary he is frequently fooled by glittering promises into tying his property up to unscrupulous imposters or wildcatters and often to his serious damage, and always to the detriment of the mining industry.

The Wildcatter: He is the unprincipled highwayman of the mining industry who robs both the prospector and the public, and who has done more to bring legitimate mining into bad repute with the small investor than many producing mines can overcome. The desire to invest and speculate in mining is inherent in most red-blooded people, but, with the history of the devastation of the wildcatter fresh in memory, the cause of the difficulty of getting money from small investors for co-operative mining development is quite apparent. Thanks to an aroused public opinion acting through official channels, the race of the wildcatter is about run.

The Mining Engineer: He is at fault, in individual cases, largely through a desire to make a record for conservatism at the expense of his employer and frequently to his pecuniary loss. I know of instances where meritorious mining properties have been turned down by engineers for no other apparent cause. Sometimes he is at fault through ignorance or lack of mining experience and without the latter his opinion on the merits of a prospect or partly developed mining property should have but little weight. Much theory and little practical experience sometimes is not only dangerous but expensive. In other individual

cases, I am sorry to say, he is at fault from reasons of wrongful personal gain. Generally speaking, however, the trained and experienced engineer is worthy of our full confidence, respect and admiration. He should be, and usually is, a many sided man, able and competent under trying and difficult circumstances and fearlessly honest in his profession.

The Mining Capitalist: He is at fault nearly always in the eyes of the prospector, because he demands some value and reasonable business terms for his money. In other words, to use a homely phrase, he demands a "run for his glass alley". Those of us who were once boys will understand that term and appreciate its full meaning. But, altogether too frequently, the capitalist is too drastic in his demands, and not infrequently is unresponsive to the rights of the little fellow, be he prospector, promoter or minority stockholder. I remember recently hearing through a New York correspondent of a mining proposition of merit presented there, wherein the capitalist demanded eighty per cent of the proposition for equipping the property without any cash payment to the owners, leaving them but twenty per cent out of which they had to pay the brokers commission. To a Western miner with a proposition of merit, that looks like plain robbery. It is hardly necessary to state that business did not result and in consequence the property lies idle and of no benefit to the mining industry.

What, then, is the remedy? We must have mines and these mines must be developed from prospects in the original case. How, then, are we to bring prospector and investor together on a basis where the investor will be fully protected in his investment in the co-operative development of the prospect into the productive mine, and, how are we then to bring seller and buyer together for mutual profit and with mutual respect?

My answer is, through an organization that will occupy the middle ground between the prospector on the one hand and the large mining concerns on the other and with the small investors co-operating with that organization, who, under proper safeguards, may, through such an organization, safely make their investments in the co-operation of developing for profit, meritorious mining properties for sale or operation. These investments can be so made and so protected that sooner or later the investment will be returned with a substantial profit.

This must all be done under the skillful management of trained and experienced engineers, business men and miners. The prospector must be taught to reasonably value his holdings and to permit the development of his property under reasonable and business like terms. The wildcatter, if any there be at large, must be absolutely put out of business. The small investor must be encouraged and taught that mining is not only legitimate, but that conducted under proper management, properly financed and with proper safeguards, is both profitable and as safe as any mercantile or manufacturing business, or so-called industrial. When so taught and encouraged by actual experience, then will it be possible to stimulate the mining industry to a productiveness never before reached.

Such an organization as is mentioned herein is now in process of formation, the objects and purposes of which are, primarily, the stimulating of the mining industry in the West by the development for sale or operation of meritorious prospects and partly developed mining properties and especially gold properties, under favorable long-time bond and lease, and to bring seller and buyer together for mutual profit. Its scheme of financing is such and is so surrounded with proper safeguards as to commend it to small investors who are assured, under this plan, of safety and a reasonably large profit. All money invested under this plan will be, in fact must be, spent in or upon the property or properties under development, reasonable charges for engineering and management being considered a legitimate and necessary part of the development expense.

Under this plan also, the small investor, while secured in his investment, has the assurance of the major part of all profits derived from development, promotion and sale, or operation of the property, and his interests are recognized as paramount to all else. The plan has been pronounced sound, feasible and equitable by bankers, lawyers, business men and engineers to whom it has been submitted and by whom it has been criticised and perfected. It offers a new freedom to the small investor for co-operative and profitable investment in the mining industry, a freedom from the unscrupulous and the wildcatter, and a basis upon which he may share in the legitimate profits of mining.

We are at the dawn of a new day in mining; the day of practical, systematic and scientific prospecting and accomplishment

along commercial lines. The day of the mining boom and the mining rush with all its glittering folly is past. The day of legitimate commercial mining is here. The highly speculative or gambling feature of mining is passing. The day of the picturesque has passed. No longer will the honored mule while straying from camp be the discoverer of future Bunker Hill & Sullivans. No longer will the storied "Red Eye", the red light and the gambling resorts represent the beginnings of civilization, nor the debauchers of the prospector in the future mining camp. The prospector of the future will be a trained man, properly equipped and financed and sent out by an organization of the character described. His work will be done systematically and along practical lines in conformity with modern experience and conditions backed by science and knowledge.

The results of this modern system can be but stimulating and beneficial to the mining industry and I believe that industry, when so conducted, will merit and have the support of the small investors who, in the past, have largely been the prey of wrong conditions and of the unscrupulous and dishonest wildcatter. Honesty and fair dealing in mining will reap the same rewards as in commercial or industrial pursuits. Let us have more of it.

The Proper Advertising of Mining Opportunities

BY DR. JAMES E. TALMAGE,
SALT LAKE CITY, UTAH.

We live in an advertising age, and mining like every other systematized activity is concerned in the modern art and practice of public exploitation. It is of record that the earliest printed periodical, devoted to the dissemination of news, issued in the year 1622; but not until another quarter of a century had sped its way, that is to say in 1647, did the first newspaper advertisement appear. That pioneer in a new field was a simple announcement of a book consisting of a compilation of religious and theological essays. Publishers in the early days possessed some of the now rare element, modesty, as a constituent part of their being, and they regarded with some sense of propriety if not of sanctity, their precious columns. However, books both good and bad, and particularly medicines guaranteed to cure any and every disease known and unknown, soon became subjects of regular advertisements, though all announcements of such were printed in small type with simple and unobtrusive head-lines. The earliest newspaper advertisement of a trade commodity dates back to 1658, when there appeared in a London weekly an announcement as to where could be bought material for the then new beverage, Tea.

From such small beginnings do great things come. Today advertising is cultivated and practiced as a combined art and science, and as the expert in the profession knows, success therein depends largely upon on understanding of philosophy and psychology. Now, advertisements exceed news in the columns of many newspapers, and the advertising pages in some of the magazines double the otherwise needful weight and bulk of each copy.

We recognize today three principal methods of advertising in print:

(1) By signboards, posters, and display-signs, of innumerable varieties.

(2) Through the pages of periodicals, both newspapers and magazines.

(3) By distributing circulars in great numbers through the mails.

The last named is practically the only one of the three with which the mining world is particularly concerned; and it moreover, is the one selective method, for the promoters endeavor to send their printed matter to the people who are thought to be directly interested in the kind of enterprise which the circulars are intended to exploit.

Well developed, productive, and paying mines are not advertised as a rule, by any of the methods specified. There is a very natural tendency to keep a really good thing in mining properties among the few who are fortunate enough to acquire holdings while the stock was cheap; and who have had the ability and good sense to retain the same. Prospects of undemonstrated and uncertain value, are made subjects for widespread advertisements, usually, as stated, by the circularizing method, and many are they who are caught thereby, more frequently to their sorrow than joy.

The real prospector, he of the pick, shovel and pack-mule, is no party to the advertising scheme; when the mails begin to be burdened with printed matter respecting his find, it is a sure indication that the property has ceased to be his, and has passed into the possession of an entirely different species of prospector, who probably could with difficulty distinguish the pick from the shovel or the burro from its pack; and whose place of work is not the hole in the ground but the well-furnished office; whose chief assistant is no hardy miner but a pretty stenographer; and whose pay-streak is the inherent weakness of human nature.

The element of chance, which enters so largely into all mining operations, the ever alluring possibility of a "get-rich-quick" opportunity, lead many to seize the glittering bait offered through the circular advertisement, though they have not experience, knowledge, or judgment enough to see whether the bait is flesh, fish, or fowl, or only a glittering spoon-bait with the hooks in plain sight.

The safe and reasonable way is to regard every circularized mining proposition with caution if not with suspicion. The standing of reliable companies is or should be set forth in the official

reports of the president and directors; and the would-be investor, if prudent, may ascertain from such reports and by personal inquiry the merits of the mine.

If mining properties are to be advertised at all, public sentiment and if necessary legislation should be invoked to denounce and punish dishonest promoters who seek to entrap the unwary and unwise, by presenting possibilities as certainties. No one knows better than the really practical miner, the competent mining engineer, and the experienced mining geologist, how much there is about mining that we do not know; nor do any realize better than these that we *have* learned some things about mineral occurrences, and that we *can* speak with relative certainty on many matters relating to ore deposits and the reliable indications thereof. In any advertising of mining property the promoter ought to be compelled to state only the facts such as a skilled and trustworthy examiner would attest, and to make clear the risk involved in the enterprise.

It is true that many of the promised advantages associated with circularized mining properties are so plainly exaggerations and misrepresentations that the duped victims thereof are deserving of little sympathy. Admitting this without question we are still confronted by the facts that such glaring misrepresentations are essentially criminal, and that the mining profession and industry is the ultimate sufferer therefrom. The spirit of American law is unquestionably set against wilful deception and fraud, however great the ignorance and guilelessness of the thoughtless victims.

It is a practical certainty that much of the misrepresentation embodied in promoters' advertisements is chargeable, in part at least, to the optimistic reports made by incompetent or dishonest examiners, many of whom profess a standing among "mining experts" though lacking practical experience as miners and technical training as mining engineers or geologists. If advertisers be required, either through stress of public opinion or by legislative provision, to support their promises and claims by the authority of competent men who have examined and reported on the properties offered to the public, there should be a strong and effective proscription against untrained and unreliable men posing under the objectionable but nevertheless current designation "mining experts." One of the great drawbacks to real progress in intelligent

prospecting, and in the legitimate inducement of capital to further the enterprise, is the unreliability of the professional examiners of mining properties whose reports are made the basis of unwarranted and exaggerated claims. We all know that the honorable, high, and useful profession of the mining engineer and the mining geologist is infested by many parasites who stand to the competent mining men as the proverbial quack stands to the worthy physician.

It is needless to affirm that every proper advertisement of an opportunity in mining should be fair and honest, which is but another way of saying truthful. If the mining property to be advertised offers a real opportunity for advantageous development and subsequent productiveness, this truth should be so set forth with the supporting evidence afforded by the report of competent examiners; but to proclaim a certainty where only a possibility exists is not only to speak but to commit a pernicious falsehood.

The most effective safeguard against the continuation of dishonest methods in advertising mining opportunities is that of professional and public opposition thereto. I consider it strictly within the legitimate activities of this Congress to set its seal of disapproval on the pretensions of untrained and unqualified men in all departments of the mining business, and to demand in no uncertain tones integrity and uprightness on the part of all who seek to promote and to advertise properties and opportunities offering gain in mining. Public opinion, encouraged and supported by the influence of this great organization, will be stronger than legislative enactment however radical or drastic. I do not recommend as essential to reformation in the matter of mine promotion the creation of new laws, either state or national, but the strict enforcement of existing statutes, and the spirit of the common law, which may perhaps with allowable variation be called the "common sense law," of right doing. It is impossible to advertise extensively except through the use of the United States mail; and existing laws directed against the illegal use of the mails are sufficiently comprehensive if only enforced. In the process of extensively circularizing any mining property, good or bad, some intelligent mining men would be reached through the mails. If they find in the literature sent to them the element of fraud, misrepresentation, and deceit, it should be considered by each of them a duty to report the matter to the postal authorities and place in official hands the evidence of

the offense. We have already on record a few cases of conviction and punishment for criminal misrepresentation of facts in connection with mining properties in which the charge of illegal use of the mails was proved. These examples have had a wholesome effect and a persistent following up of this aggressive course cannot fail in time to reduce the criminal practice to a minimum. In the interests of legitimate mining let us be united in determined and aggressive opposition against all species of untruthful advertising.

The Mining Industry of Arizona

BY CHARLES B. CLAPP,

TUCSON, ARIZONA.

It is rarely customary for those travelers who visit different countries for a few days or weeks to apologize for writing and talking about the people and industries that they have hardly more than seen. However, I am going to break from the custom and apologize for talking about the mining industry of Arizona, since I have been in Arizona only somewhat more than a year, and since, strictly speaking, I am not a mining engineer, but a geologist; and perhaps some of you may remember what Professor Haultain¹ of Toronto said at the Ottawa (1913) meeting of the Canadian Mining Institute, when he compared a geologist to a mining engineer. Neither do I wish to attempt to review the mining geology of Arizona; that has already been done admirably in a few pages by Mr. Lindgren²; and in addition, the Director of the U. S. Geological Survey states that Mr. Ransome is preparing a summary of the geology and ore deposits of Arizona, to be published shortly³.

I came down to Arizona, as far as my own personal ambitions were concerned, to get acquainted with the mining industry. Not having been here very long, I can give you only those things which have impressed me most during my year's residence. In Arizona, as elsewhere, the big things and the very small things impress one most. The biggest thing in Arizona is its climate. If it could be exported, I believe we could make the Arctic region comfortable, we could make the moon a summer resort, or we might make even the "effete East" into "A Man's Country."

But aside from the climate, the mining industry is the biggest feature of Arizona. Of this industry, as you all know, approximately 90 per cent is copper. Further, of this 90 per cent, approximately 99 per cent comes from four districts, comparatively small, geographically speaking. These are the Clifton-Metcalf district,

¹Canadian Mining Jour., Vol. 34, 1913, pp. 182-185.

²The Mining Districts of the Western United States. Bull. 507, U. S. Geol. Survey, 1912, pp. 14-17.

³Thirty-fourth Ann. Rept. Director U. S. Geol. Survey, 1913, p. 42.

the Bisbee-Warren district, the Globe-Ray-Miami district, and the Jerome district. But the mines of these districts are big mines, and the companies operating them are big companies. It would take scarcely more fingers than I have on my two hands to count the companies responsible for 99 per cent of the production from these four districts, and it would not take the fingers on one hand to count the big corporations behind these big mining companies.

Whether this is a good thing or not, it is a fact. Personally, I think it is a good thing, but very probably not for the same reason that some of you may think it is a good thing. I believe it is a good thing because these big companies can employ geologists, and all do. Some of the companies call them geologists and some call them by other names. But just as Shakespeare says, "a rose by any other name would smell as sweet," so a geologist by any other name may know as much.

Mr. T. A. Rickard, among many others, has said that the development of our natural resources presents three main problems—first, the amount of stuff; second, the average value of the stuff; and third, the turning of the stuff into cash. You may employ a mining engineer to estimate the amount of stuff, or a prospector may be the man, but in so far as he is dealing with the amount and occurrence of that stuff, he is dealing with geology. It is the work of the mining engineer and the business man to turn the stuff into cash. I think that, as a rule, the mining engineer can determine the value of it much better than can a geologist, for he has more patience; but in order to work these tremendous geological bodies and convert them into money producers, the engineer and the business man must have geological knowledge. They need it to initiate some definite working plan. Without it they cannot approach the ideal of every modern undertaking in the exploitation of resources. Mr. Hayes, formerly chief geologist of the Survey, has defined this ideal in national terms, as utilization with a maximum efficiency and a minimum waste. In other words, conservation at its best is merely good business. Courage in business is not recklessness. It is the daring that comes from knowledge. Whether these big companies are the best and the wisest conservationists is still an open question, but it is in their favor that when they desire greater efficiency, they employ better educated men. By better educated men, I do not necessarily mean men with more school training. But I mean, as was said this morning, men with more brains and better

developed brains. It matters not where the training was received, through school training or through experience.

The smallest things in Arizona are three: The small mine operators, the School of Mines, and the amount of money which the state of Arizona, through its legislature, gives to the upbuilding of its main industry. It is practically nil. I say "practically nil" because it is not quite so. It used to be so, but for some reason my salary was this year transferred onto the University fund. This is practically nil.

Dr. Phillips said last night that the ratio of expenditures by the legislature for agriculture and mining is four-to-one, but the ratio is much greater than that. This, it seems to me, is the fault not of the legislature but of the mining men. It is chiefly due to the fact that they have no definite organization, which we hope will not be the case after this meeting; and it is partly due to the fact that they have not educated the legislators and the small operators to an appreciation of the situation. The agriculturists, on the other hand, are educating themselves and the public. They demand a new building and get it. They make more demands—naturally and rightly. But it has come to a point where granting those demands *must* be at the expense of the mining industry.

A farming man of the state said last week in Tucson—perhaps not really believing what he said—that Arizona would eventually be a farming state, that everything would be a farming state, that farming would go on when mining was dead and buried and forgotten. He did not say how he planned to dig his potatoes with a piece of wood or what not.

This is a wrong attitude. It is imperative that it should be corrected, and it is only the mining men who can correct it. We want to make the mining school an exponent of conservation. We want to make it efficient. But we cannot make it efficient unless we have the means with which to do it. I am not one who believes that school training is a panacea for all the ills of the mining industry. But with most of you, I do believe that education is a near remedy for some of our present troubles. If our farmer friend had been broadly or even sensibly educated, could he have spoken as he did? Who, but the mining men, can educate the people of the state to an appreciation of what the proper development of Arizona's greatest industry can do for Arizona?

Education, like mercy, is twice blessed, and blesses him that gives and him that takes. It is the theory of democracy that when the state gives to its youth, the youth grown to man's estate shall return manifold to the state. One shall interpret or enforce its laws; another shall gather and loan its monies; another shall stimulate and direct its commerce; another shall till its fields; shall none be taught to find and exploit the treasures of its mountains?

Conservation of Western Water Power Resources

BY E. A. WEDGWOOD,
SALT LAKE CITY, UTAH.

The incapacity of the human mind, and the complexity of human affairs, is such that no man, however capable, can give all current affairs the thought and investigation necessary to marshal the facts, sense their effect, and work out a judicial opinion in relation thereto. Therefore popular ideas on many subjects are but mere impressions.

Probably no jingle of words, used as a "catch" phrase to indicate a policy, or course of action, has created more impressions upon the minds of citizens, unfounded in fact and judicial conclusion, than the words "Conservation of Natural Resources".

To conserve natural resources is not to waste. Not to waste demands opposite acts and conduct as to different resources. If the resource be active it must not be left unused and unproductive. If dormant, it must not be expended unnecessarily, carelessly or without valuable results.

This brings to the fore the character of natural resources to be conserved. We will consider falling water, the metals and coal.

Falling water is an active resource. Power is inherent therein. If not captured, it is unused, unproductive and wasted.

The metals in common use naturally lie captive in the heart of the mountains. When mined and converted into form for commercial use they are made into articles useful for the time, in due course becoming obsolete and finding their way to the junk heap from which they emerge in different form time and again with but a percentage of loss.

Coal measures present a different question. In so far as coal is devoted to beneficial uses this resource is consumed, even as to by-products. A portion of the mined supply is necessarily consumed for the production of heat, but that portion used for the development of dynamic energy is unnecessarily used wherever water power may be practically substituted therefor.

Where coal is so consumed for power three losses necessarily occur—the loss of the coal itself, which might be conserved for use of future generations—the loss of the inherent power of idle water, which flows on wastefully to the sea—the loss of the cost of transportation from the mine to place of use, which is simply wasted energy.

The transformation of the inherent power of falling water into revolving wheels, located miles distant, consumes nothing but the final toll demand by the junk heap.

From the foregoing, it seems obvious that conservation of natural resources demands immediate development of available water powers, and that such factors as stand in the way are antagonistic to actual conservation.

Three factors control the development of Western water power resources: The right to the perpetual use of flowing waters. The right to occupy the necessary public lands for dams, power houses, water conduits and pole lines. Money sufficient to construct dams, water conduits, power houses and transmission lines.

These factors are controlled by different interests.

In the states of the arid West, where the law of riparian rights has been practically abandoned, and within which large and valuable mining interests, developed and undeveloped and dependent upon power, are situate, the flowing waters of the natural streams, not heretofore appropriated, are the property of the state, and where not navigable, wholly under the control of the state.

The lands upon which dams and power plants must be constructed and over which water conduits and transmission lines must be built, are, in general, the property of the United States, under the control of the interior department, subject to congressional enactment.

Funds for the development of water powers, in the immediate future at least, must be furnished by private capital.

It is therefore evident that these diverse interests must unite upon common ground if progress is to be and conservation accomplished.

The greater portion of the area of the Western arid states is unoccupied, public domain, mountainous and desert in character. In one, but 30 per cent of its lands in, or in process of transfer to, private ownership and this 30 per cent carries the burdens of the

state. These states are anxious for the advancement of their resources. To that end their laws permit a corporation or individual, upon proper application and the payment of a reasonable fee, to become the owner of a perpetual right to the use of the flowing waters of the natural streams.

The principal resources of these states are mining, agriculture and stock raising.

Stock raising is dependent upon agriculture, agriculture upon irrigation, and mining and irrigation upon flowing water and power. The development of water resources develops all.

Under such laws and conditions, private capital and the state readily join hands for development. The only question to be settled being, will development be profitable?

The third factor is the right to the use of a few acres of desert land for power site and rights of way, which, in themselves, are valueless for other useful purposes. By reason of ownership of these lands, the Federal government, through congress and the departments, apparently assumes to control water power development and therefore the progress and material welfare of those states.

Ought the mere ownership of a few acres of desert lands give this power? All lands in private ownership are subject to the law of eminent domain. If Federal ownership does carry such power and the law of eminent domain does not apply to such lands, ought Federal power over these lands to be used to retard the progress of a state and prevent the conservation of its natural resources?

The Interior Department holds that where power developed from falling water is to be used for a purpose other than irrigation, permits for rights of way and power sites can issue only under the law of Congress of February 15, 1901, (31 Stat. L. 790) the closing words of which act are:

"And provided further that any permission given by the Secretary of the Interior under this act may be revoked by him or his successor, in his discretion, and shall not be held to confer any right or easement or interest in, to, or over any public land, reservation or park."

This ruling has been in force for approximately four years and water power development in the West has been substantially at a

standstill. This must necessarily be under such conditions. The construction of a hydro-electric power plant involves the expenditure of hundreds of thousands and oft-times millions. It is, in its nature, a permanent investment for the water continues to flow forever and only the hand of decay touches the dams, diversion works and water and electrical conduits. The investor's ownership of money is transferred to representations of indebtedness. Under the law above quoted from the right to use this plant, and each element thereof, except the water, "may be revoked by him (the Secretary of the Interior) or his successor in his discretion."

Will the prudent investor put money into an enterprise the very life of which, so far as he is concerned, depends wholly upon the will of a Secretary of the Interior? The answer must be, No! The lack of water power development during the last four years so demonstrates and also that the law of 1901, born of federal control of a few acres of land, has blocked the progress of states and prevented the conservation of their resources.

The impotence and viciousness of this law being realized, a bill "To provide for the development of water power and the use of lands in relation thereto and other purposes" (H. R. 16,673) was introduced in the house of representatives, May 19, 1914, there passed, and is now before the senate and has been twice read and referred to the committee on public lands.

The question of interest is: If this bill be enacted into law, will the development of Western water powers be practical under its terms? In other words: Ought prudent investors to invest in securities issued under its terms? Will such investors invest? If these questions must be answered in the negative, then the passage of the bill would accomplish no useful purpose.

Stripped of verbiage, the important provisions of the bill are:

"That the public domain may be leased for the purpose of the construction and operation of hydro-electric plants for not longer than fifty years, but such lease shall not be assignable or transferable without the written consent of the Secretary of the Interior.

"That such plants shall be continuously operated subject to market conditions, and an excess of fifty per cent of its output shall not be contracted to any one consumer.

"That the regulation and control of service and charges and

the issuance of stock and bonds is conferred upon the Secretary of the Interior.

"That the physical combination of plants may be permitted in the discretion of the Secretary of the Interior, but arrangements limiting the output are prohibited.

"That without the consent of the Secretary of the Interior no sale and delivery of power shall be made to distributing companies, except in cases of emergency and then only for a period not exceeding thirty days.

"That the constructor shall create no lien upon the plant by mortgage or trust deed, except such as is approved by the Secretary of the Interior.

"That after forty-seven years, upon three year's notice, the United States shall have the right to take over the plant upon paying the actual cost of rights of way, water rights, and the interests in lands of which the lessee is the actual owner and the reasonable value of the property erected upon the leased lands, such reasonable value to be determined by agreement between the Secretary of the Interior and the lessee or by judgment of the United States court.

"That if, upon the expiration of the lease, the United States does not take over the plant, or does not renew the lease, the Secretary of the Interior may sell the entire property, the purchaser to pay the lessee upon the same basis the United States would pay if it took over the property.

"Contracts for the sale of power extending beyond the life of the lease, must be made with the approval of the Secretary of the Interior and when so made, the successor in interest of the lessee assumes the obligation thereof.

"The Secretary of the Interior may specify charges and collect charges or rentals for all power sold and used and not necessary for the operation of the plant, said charges to go into the reclamation fund heretofore created by Act of Congress, one-half thereof to come back to the state when certain conditions are fulfilled.

"In states where the regulation of rates of service and the issuance of stock or bonds is not controlled by a public service commission or other authority, such power is vested in the Secretary of the Interior or other body authorized by congress.

"The power to examine all books and accounts and require the submission of statements and reports relating to the business matters of the lessee, is vested in the Secretary of the Interior.

"That rules for carrying into effect the provisions of the Act shall be made by the Secretary of the Interior.

"That nothing in the Act shall be construed as affecting or intending to affect, or in any way to interfere with the laws of any state relating to the control, appropriation, use or distribution of water."

Will the investing public—looking at the matter from the standpoint of fairminded, prudent, business men—advance money for the construction of plants and transmission lines under this Act? The answer must be, No, and that for the reason that they, or their representatives—from a practical standpoint—have no real control over the management of the plant their money constructs. Freed from chaff, this arrangement means that the constructors of an enterprise turn it over to the Secretary of the Interior to operate, they paying operating expenses and taking whatever profit the management of the Secretary and his agents may earn, if any, not exceeding an amount to be fixed by the Secretary, or stand such loss as may be sustained, as the case may be. At the end of fifty years the lessee's right to have the property operated ceases. No assurance is given that the lease will be renewed, nor that the United States will take the property and make the lessee whole under the terms of the Act, nor that the United States will be able to transfer the property to a new lessee who will do so.

To all intents and purposes, the investor is a silent spectator in the grandstand, while the Secretary of the Interior and his agents direct the men the investor pays for the administration and manual operation of the plant while the life of the lease rolls by.

In view of the conditions imposed upon an enterprise and investment which can only be quickened into life by falling water, of which a sovereign state, or its grantees, is the owner of the right to use, the provision of the bill—which we quote verbatim, viz:

"That nothing in this Act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any state relating to the control, appropriation, use or distribution of water."

—if taken seriously, can only be regarded as a joke. A man holding the key to a dungeon might as well invite a respected citizen therein, gag him, hogtie him, close and lock the door and in making his exit say: "Nothing I have done shall be construed as affecting or intending to affect or to in any way interfere with your personal liberty or freedom of movement under the laws of your state."

If the bill becomes law the congress, in effect will assert that the Western States are incapable of properly directing and controlling their domestic affairs insofar as the development, operation and business conduct of hydro-electric power plants is concerned, therefore, by reason of federal ownership of public lands, valueless in themselves, we dictate what they shall do, and what they shall not do, in regard to such matters, and appoint the Secretary of the Interior, and his officers and agents, their guardian with full power to act in the premises, granting him full authority to make such rules and regulations regarding his own acts and the state's grantees as he sees fit and proper and from which there shall be no appeal.

The bill is impracticable from a business standpoint. Local conditions must dominate the management and operation of a business enterprise. The particular character of the enterprise and its environments marks out certain fixed paths along which its management and control must travel. An ideal may be desired, but the ideal cannot be created by fiat, regulation or enactment, it must be the fruit of constructive development. Constructive development cannot be guided by a man thousands of miles away and not substantially interested in the results obtained. It can only be guided by a man directly behind the gun, whose heart and soul is in his work, and directly responsible to the actual parties in interest, not only for successful operation, but for such reasonable financial success as returns a fair profit upon the investment. His hours cannot be fixed by the hands of a clock. His responsibility is satisfied only by an all around success and the reasons why he succeeds or fails are of no moment. Such responsibility and efficiency results only from the power to exercise such free hand and sound discretion as the facts and exigencies of the particular case and moment demand.

All fair minded men favor true conservation, the abolishment of waste. Therefore they must favor the development of water

powers within the arid states. To accomplish this the three factors in interest must come together on a practical plan for the unification of interests. The open question is, can the minds of the parties meet on a plan to be enacted into law that will be just and fair from all standpoints and at the same time practical? It is believed they can and the elements of such plan are few and not complex.

The investor's money must be secured in accordance with recognized, sound business principles.

The direction and management of the enterprise must be with the investor's agents, for he must be assured at all times that the best skill of the day is properly working to the end of efficient operation and a legitimate return upon the investment.

Purchasers of product must be on a substantial equality and insured that the price required will be reasonable and not greater than necessary to return compensation and a fair profit upon the investment.

With these results accomplished it cannot be material who owns the plant, unless the sovereign, federal or state, desires to become the owner as a matter of public policy.

All desired results would seem accomplished if capitalization were fixed at a certain ratio of cost; if the service cost to consumers was regulated by state public service commissions, or, in their absence, other competent authority; if the sovereign, after the lapse of a reasonable number of years, has the right to become the owner upon payment of a proper and just valuation and if a flat charge upon the output as rental for lands occupied but owned by the United States is paid, if such charge be deemed advisable. What would be a proper and just value of the entire property upon the taking over by the sovereign would be presumptuous for one individual to say, but the ripe judgment of men skilled in the fair and legitimate investment of capital would seem to be the potent factor determining this question from the practical standpoint.

The matter in issue is but an economic, business proposition. There is a point where the minds of the diverse interests ought to meet, where rational fairness and practicable conditions will inure to all. With this point reached and acted upon by legislation, progress will result, otherwise stagnation and waste will con-

tinue and the so-called policy of conservation continue to be a sham. The federal government may, by congressional enactment, coerce a state and block its material progress, but it cannot coerce the private investor.

Power to the value of millions of dollars is being yearly dissipated and lost in the Western gulfs and oceans, promising mineral prospects are lying idle, and thousands of acres of land are now desert which might by fruitful and productive under pumping irrigation. To permit the Western water power resources to lie unused is to permit or compel an annual, inexcusable and improvident waste that amounts almost to a devastation, and is to maintain a condition that, from a humanitarian standpoint alone, is intolerable and impolitic, and grave indeed is the responsibility of those who, having the power or direction within their hands, permit or compel such loss. The dictates of humanity demand that living, existing things be developed out of such idle resources, and in so doing nothing is lost to future generations for the power of the water in its fall is a present, living and existing thing throughout every minute and second of present years and coming ages as long as waters flow onward to the sea, and "the mill will never grind with the waters that have passed."

It is believed an all wise Providence intended its boundless resources, for the time imprisoned in the falling waters, to be conserved and applied to the aid of man in ministering to his necessities and in supplying him with such comforts and conveniences and as the intelligence of the day makes practicable.

It is believed the congress, in its wisdom, should at once provide that the respective states, through their citizens, may have, on practical terms and conditions, just and fair to all interests, national, state and private, the use of the public lands to the extent necessary, whereby to wrest the power from the falling waters and thereby upbuild the state and advance the good of human kind during the present and future generations.

If it be said this cannot be done now, can it be done in the future?

If it be admitted it can be done in the future, why can it not be done now?

Give the Miner a Square Deal

J. C. THORESEN,
SALT LAKE CITY, UTAH.

Recently a miner asked me why the *farmer* was given so many advantages over the *miner* in securing surveys and patents from the government, for *his* land claims. Answering the question himself, he said, "It is because *farmers* make the land laws."

Taking into consideration the following facts, the indications certainly justify this miner in his conclusions.

Upon the application of the *farmer* the government surveys, at *its own expense*, the land he desires to secure, and under the homestead laws it *gives him*, practically *free* of cost, 160 acres of land, his own choice, if he but resides on it for three years; or, if he chooses, after residing on it for fourteen months, he can secure title by the payment of \$1.25 per acre. In certain parts of the West he can get 320 acres by merely cultivating certain portions of it annually for three years, without even making his residence thereon. Or he can secure 320 acres for \$1.25 per acre by reclaiming it by artificial irrigation.

The *miner*, on the other hand, first prospects (perhaps for years) to find indications of mineral; he then stakes off his claim of 20 acres, makes and records his Location Notice, proceeds to find "mineral in place" within his ground—and in the not distant past it had to be "in commercial quantities"—complies with the local and general mining laws, rules and regulations; he must expend \$500.00 in development work on his claim of 20 acres before he is even permitted to have his claim officially surveyed at *his own expense*, which costs him upwards of another \$500.00; he must pay the government \$5.00 *per acre* for his ground and, if all these requirements have been strictly complied with and so certified by the agents of the government, a patent is issued to him for his claim. This makes *his* ground cost him in the neighborhood of \$50.00 *per acre*, besides months and years of time required to comply with these various restrictions.

If the farmer fails to raise a crop it is generally his own fault, either through ignorance or carelessness; but where one farmer fails there are ninety-nine miners who fail "to make their claims pay." Hence, the miner's chance to get returns from his labors and investments as against the farmer's is 1 to 99.

Then again, the land the miner secures is generally *worthless*, except for "one crop"—the mineral it may contain—while the farmer's land is good for a succession and variety of crops and often for other purposes. If the farmer fails in one, he may succeed in another; but not so with the miner; if he fails in finding mineral in commercial quantities and qualities (which, if at all, in nearly every case is after extensive expenditure of time and money in prospecting and development, besides the foregoing outlay of \$1,000 for surveys, patents, etc.), *all his efforts are a total loss*.

It was formerly presumed that mining was very profitable—a get-rich-quick proposition—and that farming was slow and uncertain as to results, especially in the arid west.

But time and experience have proven just the opposite. A farmer, with the same standard of knowledge and experience in his line that an average miner has in his, is sure to succeed. He gets *some crop each year* and his claim improves continually with every dollar expended and every day's work. His living is *certain*, with much less capital invested than the miner requires. He lives in peace with his family. But the poor miner gets no returns *for years*—his efforts and expenditures often prove that there *are no returns at all* from his claim. His lonely life in the hills, as he burrows into the mountain through a small prospector's tunnel, is not to be compared with the pleasant life of the farmer.

Why this discrimination? Is it not a fact that our land laws were made by our eastern neighbors who were acquainted only with agricultural pursuits, and had but a slight knowledge of mining? This is certainly true of a majority of members of past congresses.

Has not the time arrived when the miner should receive some consideration and be put upon an equal footing with the agriculturist? Why not let *his* claim be surveyed by the government without expense to him, and give him title for \$1.25 per acre, the same as to the farmer?

Mining claims could often be surveyed by the U. S. surveyors in their regular work without much extra expense, and in such

cases the miners would be accorded the privilege which is always extended to the farmer. *Special* surveys of homesteads are being made in forest reserves *for the farmer* or squatter, at the sole expense of the government, but the miner's claim is "passed up."

The West is now much better understood. It has many able representatives in Congress and in the various departments of the Federal Government, and I am certain all will join in securing this great boon and "square deal" for the mineral development of our country.

Our government expends vast sums in the aid of agriculture in a thousand different ways, which is very commendable, but a very limited amount is appropriated for the development of the mineral resources of our country.

The world is eagerly demanding our gold, silver, and other minerals. We have them in unbounded quantities, with plenty of men and means to bring them out, if only a little encouragement be given by the government.

Let us give the miner a chance!

E Pluribus Unum

BY EDWARD G. REINERT,
DENVER, COLORADO.

Not long ago the newspapers published a list of worthless stocks, bonds and loans which had been left in the strong boxes of E. H. Harriman, Jay Gould and Russell Sage when they died. In each case the exhibit showed a preponderance of losses in wild-cat railroad investments. The mining stocks held by these millionaires represented only an insignificant share of their unsatisfactory purchases.

Elaborate lists of obsolete securities have been published and are available to those who desire to investigate. Mining, which in these days is so often accused of all the crimes of promotion, to the exclusion of other industries, represents so small a part of the unhappy ambitions of investors that it should not be considered in any discussion of unwise investments. Smythe's handbook of "Obsolete American Securities and Corporations" sets forth twenty pages of "First National" banks that have failed or suspended business in the United States. The frequent repetition of that one designation is sufficient evidence that the banking business itself is not the safest opportunity for capital. Thirty years ago a writer in the North American Review pointed out that eleven eastern and southern states had repudiated bonds to the amount of \$310,000,000.

But it is not my purpose to indulge in invidious comparisons. Men are very much the same in all ranks, professions and climates. It is only because the mining industry is so frequently put upon the defensive in respect to its financial methods that we sometimes find it necessary to study investment systems in general and touch up the history of those industrial enterprises in which our Eastern critics live and move and have their being. Mine promotion has repeated, on a very small scale only, the tendencies that have appeared in connection with all industrial progress. We puff and spout in vain when we discourse upon plans to "get rid of the faker" and "elevate the promotion business." After years of intimate contact with movements to purify finance, I have come to

the conclusion that counterfeiters and imposters, like the innocent and gullible, are an inherent element in our social constitution; it cannot be removed, but may perhaps be neutralized. In any event, the seamy side of business should not be permitted to darken our constructive efforts. Men of good intentions are the rule, not the exception; if this were not so, there would be no progress.

What I desire to offer is a few broad historical reflections upon the business of investment, to the end of bringing our conclusions to bear upon the current problems of mining finance. Let us put aside the critical for the scientific attitude.

(1) The word investment was invented to describe a process by which surplus wealth, or capital, seeks to reproduce and increase itself through the organization and construction of the means of producing more wealth. This definition reveals the motive force of modern industry. But the constructive power of capital is not unlimited, because its motive may be curtailed by the restriction of those market outlets for its produce which are the means of keeping capital fluid; capital can only function as a constructive agent in industry through the sales of the commodities which it reproduces. To put the matter more simply, when a given people has all the steel works that it needs, 'twere folly to build more, for no one has yet discovered a market for steel products on the Moon. When we have enough steel factories to supply all the materials of this character that the people of the world can possibly use, investment in new steel factories will become a risky proceeding. Moreover, when the ownership of steel factories becomes highly concentrated, conduct and market systematized and their management unified, it becomes increasingly difficult to promote and finance new institutions of this character. The man who, in the face of this inevitable situation, seeks to promote a steel factory is a *faker*, because, if he has any brains and education, he must know that he cannot make good. He is not a faker because steel factories are bad things, but because *more* steel factories will be a loss and a nuisance. Investment in the manufacture of steel becomes henceforth a process of financing improvements and extensions to that which already exists as a foundation. I am not here seeking to air personal opinions, but merely to utter a historical judgment.

(2) Every civilization experiences the constructive power of capital through a certain order of development, beginning with

the smallest conceivable units of organization and ending with the largest. The industrial form becomes fixed and we encounter thereat an inevitable economic resistance to invention and promotion. That invention or promotion must be overpowering and revolutionary which can hope to contest the field already won by a standard invention or held by a gigantic organization of capital greater than any mass of new capital that can be brought against it. At no previous period in the recorded history of the world have we known of any people possessing the accumulations of wealth and the means of wealth production, based upon highly technical knowledge and science, which are now visible in Europe and the United States. Nevertheless, we find the parable of these very things in the story of Rome; a despotic attitude toward the possessors and non-possessors of wealth developed with the centralization of capital in the imperial state. We are repeating today on a gigantic scale the history of the days of the first Caesar. If the great Dictator were living in America today, he would be a state's rights Republican. Caesar would have been a decentralizer, in contrast with our own beloved and behated Theodore Roosevelt. Caesar desired to enfranchise the people of Gaul and other outlying provinces, as a means of saving the nation. Mr. Roosevelt and his school are yearning to disenfranchise the people of the West by means of a federal land-leasing policy.

(3) During the period of independent constructive effort, capital is apt to be loosely and recklessly managed and the returns from successful creativeness are large. The making of new fortunes is rapid and the financing of alluring dreams is often scandalously conducted. Because the chances are great, the spirit of speculative embarkations is correspondingly rampant. The pioneer in industrial finance is as daring as the pioneer of a new continent. The resources and opportunities both of nature and of social development enrich both the purse and the imagination. This is the get-rich-quick era of a country's history. Presently it passes away, and new ideals develop. The *got-rich-quick* of the former day become conservative, or at least bestow conservatism upon their sons. The father who has accumulated a rapid fortune by fur-trading with the Indians leaves an heir who loans money at $4\frac{1}{2}$ per cent. An aristocracy of investment arises. To get rich quick becomes a scandal; building a new steel factory, when none is needed, is an abomination before the Lord. Feudal exclusiveness

frowns down upon the man with a new idea. The railroad wild-catter is succeeded by the president of a transportation company kneeling suppliant before the throne of the Interstate Commerce Commission. Try to build a new railroad from Chicago to Denver, and see what the government will do to you. Try to sell a stock or bond in Kansas, and learn what a "blue-sky" commission is made for.

(4) The sign on the American silver dollar is *E pluribus unum*. That means that we are *one* country composed of *many* states. Since the fabrication of this strange device, we have added *many* more. We of the West are the *outlanders* of the original nation. In the main, the states of the great Rocky mountain region have been settled since the Civil war. We are a distinctive division of the United States, possessed still of the pioneering instinct, a little rude in our manners perhaps, but certain of our right to develop ourselves as our grandfathers did in Pennsylvania and Illinois. Of what import is it to us that our cousins of the East are willing to accept a state of industrial fixity and insist upon a rigorous notion of investment? The West has many resources and opportunities both of nature and of social development; it will reason and act according to its own historical perspective, not according to the historical perspective of an older order. On the other hand, the old order of the East finds occasion to ridicule mining investments because it is mining that typifies that stage of development at which the West has thus-far arrived. There exists a provincial antagonism which springs from a historical opposition between the old and the new, between the fixed and the unsettled, between the imperialistic and the republican ideal. In spirit, but not in form nor in law, the West is a different nation from the East; from the point of view of the citizen of Denver, New York City is a foreign metropolis.

(5) Whatever strain may exist, as between the views of the East and the views of the West upon questions of investment, finance, politics and the administration of national affairs, reflects the differences of social and industrial development. The West is still in the midst of the constructive period; the East has passed it and is now in the period of recrudescence. The West understands the East, but the East does not understand the West. The weak by force of circumstances understand the strong, but the strong have no time to understand the weak. It is no unusual occurrence

in history that the institutions of a new civilization may cast their influence backward over the peoples that have been left behind them in the race around the world. A free United States sent her lessons to England and France; ultimately the West will teach the people of the East. It is no mere accidental phenomenon, for example, that nearly all the trans-Missouri states have adopted woman's suffrage as an expression of their human superiority over the older commonwealths. The West is a land of development. In how many respects do we find that development hampered by the ignorant or invidious power which the West must suffer from the imperial autocrats of the old United States? Let us mention a few instances:

(a) Our public lands are held in restraint of settlement because it is the wish of a people not ourselves that these lands should pay tribute to the "mother country."

(b) So-called "investment bankers" of New York, Philadelphia and Chicago seek to provide a system of commissionerships in the various eastern states to prevent Western enterprises from seeking capital in their territory. "Bly-sky" legislation is another of those autocratic devices designed to defeat the decentralization of investment.

(c) The editors of Magazine Row habitually assert their want of understanding by co-operating with the autocratic agents to influence public sentiment against the interests of the West. Mining has been repeatedly and skillfully lied about in the New York press, while the public land question has been so insidiously misrepresented that it is impossible to discover a fair opinion concerning it among the Eastern people.

(d) As if to neutralize the avowed purpose of the new currency law, so far as the Rocky mountain states are concerned, the administrators of that law have arranged to leave one-half of the area of the United States without any of the twelve regional banks. Between Kansas City and San Francisco, we do not find one of these federal institutions. This neglect is a most palpable discrimination against the great Rocky mountain region, whose national banking connections will thus be found either in a corn belt, a cotton belt or an oriental shipping belt on the Pacific coast.

(e) In the matter of industrial protection against the competition of the old United States, the West is without power to

regulate the railway freight rates which should normally be used as a substitute for tariff duties in encouraging our infant manufactures. Rate changes are controlled by a federal commission which has its seat in the towers of the mighty. The autocratic power which it possesses is a power over which the states of the West have no voice. Ontario and Quebec and western Canada can erect a tariff wall against New York and Pennsylvania, but Colorado and Arizona and Utah cannot do so, because we belong to the *e pluribus unum*, so carefully guarded by the constitution. The arbitrament of western freight rates is also denied to us by the political supremacy of our entrenched competitors.

This is the situation. I have sought to present a social and historical moving picture of those principles and events which must govern any inquiry into western questions. The deliberations of the American Mining Congress, insofar as they relate to the express interests of the West, cannot escape conformity with the political facts which have been briefly sketched out in the foregoing pages. The West is rapidly approaching a crisis in its relationships with the East and in its political *status* under a federal system.

But I pass that by, because the further discussion of it does not fall within the province of this address. That in which we are vitally interested is the problem of finance as it relates to western industries, notably mining. The business of enlisting capital for the development of new areas in a relatively young division of country encounters many untoward experiences and difficulties. Dishonest promotion is, of course, a hurtful thing; government interference is far more hurtful. The tendency toward which we must look with the greatest favor is the investment of western capital in the West. Whenever a dividend is paid by a mine, it were far better for us if it fell into the pocket of a western man. Too little effort is expended in keeping our business opportunities at home. To do this is to assert in some degree our financial independence of the "mother country." I have pointed out that the worthless securities left behind by Harriman, Gould and Sage represented a great many wild-cat railroad stocks and bonds. Let it be said of our western millionaires that, when they died, their estates showed that they had dealt lavishly in mining ventures.

In a very literal sense, mining is a peculiar business. Perhaps we should not expect the citizens of Vermont and Indiana to understand it. We have much to gain by educating our own

people in the habit of developing their own mineral resources, instead of trading in Wall Street. As western people, we do not have to contend with them in the matters of sectional and historical difference which exist between ourselves and our Eastern cousins. I believe, therefore, that a proper and important question for the American Mining Congress to take up is that of promoting the interest of the West in the West. Let it turn aside from the task of protecting Eastern investors long enough to inquire about the protection of western investments from the people of the East.

It will not do to attempt to suppress the ideas of speculative profit to be secured from the development of the West. The speculative incentive, which prevails in the early years of a country's progress, must apply to the newer regions of the United States as though they were under a separate government. If the time has arrived when the people of the East look upon investment as a $4\frac{1}{2}$ per cent proposition, we must protest against the extension of such notions to the West. Western development calls for that rampant individualism, the same old notions of freedom, which have made every new country possible.

Conservationism is only one manifestation of the imperial desire to prevent speculation in the opportunities of an undeveloped region. No new fortunes are to be tolerated by men of the Pinchot type, who have already accumulated *theirs*. That is the essence of conservationism. It is matched in a way by the "blue-sky" movement such as the "investment bankers" of the imperial metropolis have seen fit to define it: a movement to restrict investment to the new securities of the great railroad and industrial combinations whose management is centered in New York City. Mining is not a $4\frac{1}{2}$ per cent proposition. It is based on nothing less than a 20 per cent ideal; that is the way new commonwealths are built.

The day of imagination has passed in the East; it still abides in the West. With us there is still room for Napoleons, if their opportunity is not sapped by the tyranny of the old United States. In the language of a Colorado poet:

"The West is the promise; the East, the regret."

Acetylene Mine Lighting

BY A. CRESSY MORRISON,
NEW YORK CITY.

The history of the introduction of acetylene into the mines of the world by means of what is known as the carbide lamp is remarkable for its brevity, and the general acceptance of the new light has been startling in its rapidity. Acetylene in the mine represents a paradox, in that it has given the miner a better light for less money. Usually, improved means cost more money than an old method, but with acetylene mine lighting, the economic argument in favor of the illuminant continues after several years of practical experience and in the face of radical reductions in the price of the competing sources of light. The use of acetylene in mines became almost universal in Europe before it had fairly started here and the first two or three years in America were rather difficult, because a lamp adapted to American needs had to be developed and the miner himself had to be taught how to use the lamp successfully. The carbide lamp is peculiarly well adapted to use as a cap light, and in the coal mines of the country the cap light is almost universal. In the metal mines, both the cap and the hand lamp are in use. Acetylene is equally well adapted to either form. Up to the present time no safety lamp, using acetylene as a source of illumination, has been introduced for gaseous mines, but in non-gaseous coal mines it is safe to say that 70 per cent of the miners are now carrying acetylene lights. The introduction of acetylene into the mines was resisted rather surprisingly, for it was seen by all parties at interest that its widespread use would upset long established trade relations. Then again, the carbide lamp was forced to face the conservatism which is innate in human nature. The very fact that it was cheaper and also better seemed illogical and many held aloof. Once introduced, however, the carbide lamp won its way straight to the heart of the miners themselves, who soon learned that it was the greatest improvement in illumination since the abandonment of the tallow dip and the introduction of oils and waxes.

In enumerating briefly the advantages derived from the use of acetylene in mines, safety should be placed first. This, of course, includes health.

A systematic review of the use of an illuminant must necessarily begin with its source. In the case of the carbide lamp, this source is calcium carbide. Calcium carbide is made in an electric furnace at a temperature of 7,000 degrees F. It has all the characteristics of crushed stone except when brought in contact with water. The ingots of carbide which come from the electric furnace are crushed in a stone crusher to various sizes, packed in air-tight metal drums and shipped ready for use. The carbide is not an explosive; it is not affected by concussion; it cannot be burned and the lumps could be placed in a fire without the fire having any effect upon them. The drums are air and water-tight and will stand very considerable rough usage without rupture. When carbide is brought into use in the carbide lamp, the quantity of carbide for a cap lamp contains about one-half a foot of gas. The total amount for a miner's supply for a day is therefore but a few ounces and if it should all produce acetylene at once, it would yield about two to two and a half cubic feet. This amount is so small that up to the present time it has not been known to cause any serious trouble under any conditions. Carbide will not give off its gas fast enough under ordinary mining conditions to become ignited unless it comes in contact with actual water. The moisture in mine air will slowly slack the carbide, but not fast enough to make an ignitable mixture, and there has never been any trouble from this cause anywhere. There have been one or two cases where a miner with a light on his cap has spit into the carbide holder of another lamp and produced a little gas, which igniting from his cap has caused a flash. The answer to this is that a miner should not spit into his carbide. A case is known of a miner carrying his supply of carbide in a glass jar, dropped it into a puddle of water and then stooping down with his lighted lamp to gather up the carbide and save it. This would result in an ignition of the gas that was being made and a flash more startling than hazardous. Calcium carbide should not be carried into the mines in glass jars but always in a tin container.

Calcium carbide has not proved to be hazardous under any conditions of mine practice. There is no reason for storing large quantities in any part of a mine and no hazard could arise from

so storing except in the case of a flood, in which event the water-proof drums would hold back the water for an undetermined period. Ninety-nine drums of carbide sunk with a steamer in New York harbor this year. After remaining under water for six weeks, they were recovered intact; not one of them had yielded; they were repainted under the eyes of the insurance inspectors and shipped to destination in perfect condition.

The residue from calcium carbide is merely ordinary slacked lime. The odor from the residue comes from slight impurities and has no effect whatever upon man or animals.

Acetylene itself is a rich hydro-carbon gas having the same general characteristics as any other gas which is inflammable; that is, it is inflammable and when burned, it will give light and heat. It obeys the same laws in the same way as city gas, except for certain individualities which I will now enumerate. City gas contains carbon monoxide. A very small percentage of this in the air is sufficient to cause asphyxiation and death. Acetylene is entirely free from this deadly gas. Exhaustive tests have been made upon man and animals and it has been found that acetylene is not poisonous. Any gas or combination of gases lacking oxygen as an element will of course cause death by suffocation and in this sense, anyone who walked into an atmosphere of actylene so rich that the air was excluded would of course be suffocated, as though walking into black damp. No such accumulation can occur in mine practice, however. There is therefore, no danger from acetylene in mines as there is no opportunity whatever for any volume of the gas to be released. The odor of the gas which is pungent will also be quite apparent when the percentage of acetylene is as low as one part in ten thousand. When acetylene burns, it gives off as a product of combustion carbon dioxide and water vapor, the amount given off being about one-tenth as much as is given off by a city gas burner and very much less of the same combustion products than are given off by any of the other illuminants such as oils, waxes or candles, generally used in mines. One great advantage of acetylene is the fact that it burns without smoke or soot whereas the other illuminants used in mines give off varying and sometimes very large quantities of smoke. Acetylene in burning uses less oxygen than other illuminants and therefore the air becomes less vitiated. The absence of smoke brings into play for acetylene another factor, that is the reflector, which

is of great importance and which increases the useful candle power of the acetylene flame from 10 to 30 times. While the candle power of acetylene without reflector is in excess of the candle power given off by an oil flame, the use of a reflector which throws all the light at the point of use, multiplies the candle power so that twenty candle power at the working face is easily attained and this is anywhere from ten to twenty times as much as is given off by the oil flame. The advantages of this concentrated light are generally recognized and are so marked that it largely increases working efficiency. Acetylene gives a steady light all day without much flicker and the absence of smoke makes the light effective till the last moment of work. An examination of the spectrum of acetylene discloses the fact that it is the closest approach to sunlight of any of the illuminants. No artificial light is a very close approximation of daylight or sunlight but acetylene is the nearest approach and therefore is nearest in harmony with the requirement of the human eye, which has been developed to see best by daylight. There can, therefore, be no eye strain or injurious effect upon the eye. All these considerations seem to make acetylene ideal from the chemical, physiological and optical standpoint.

The question of the action of the acetylene flame in the presence of gases naturally found in mines has led to considerable discussion. As a preliminary statement, it should be said that acetylene should not be used in any mine where safety lamps are properly required but wherever open flame lamps are used, acetylene has its place. No question has been raised regarding the use of acetylene in the presence of any of the gases except black damp and here it has been stated that acetylene will burn in an atmosphere of black damp in which man cannot exist. Most careful investigations have been made on this point and the study has led to a more definite definition of black damp. Owing to the expression, in which might be called practical language, of the chemical facts regarding black damp, there has arisen a misapprehension as to what black damp really is, and many miners, mine superintendents and even mining engineers have been led into the erroneous belief that black damp is carbon dioxide. Under abnormal conditions black damp might consist of nitrogen and a large percentage of carbon dioxide, but under practical conditions black damp is a mixture of carbon dioxide with various proportions of nitrogen,

seldom exceeding the ratio of one carbon dioxide to four nitrogen, this being the ratio of combustion. Complete slow combustion changes the oxygen into carbon dioxide without increasing the volume. The carbon dioxide simply replaces the oxygen. However, black damp is seldom as rich in carbon dioxide as this for various reasons. Therefore, when black damp is found in a mine, it must be considered as a mixture of nitrogen and carbon dioxide. Nitrogen is inert as regard to the human system, but carbon dioxide has a physiological effect which in fairly large quantities may resemble the effect of a narcotic. Carbon dioxide also has an effect on flame extinction. A series of experiments conducted under proper conditions has disclosed the fact that neither oil, candles, acetylene or in fact any flame illuminant is an adequate protection against pure carbon dioxide. All the authorities seem to agree that 3 or 4 per cent of carbon dioxide will cause panting and that 6 or 7 per cent soon becomes unbearable. An analysis of black damp, however, usually shows that the percentage of carbon dioxide in mine air where black damp is present seldom reaches the serious danger point, and if it reaches the danger point, it is usually accompanied with sufficient nitrogen so that other factors are brought into play. Open flame lamps give adequate warning of black damp and acetylene is no exception. While it is not physiologically advisable for men to work in the presence of black damp, the presence of sufficient quantities of black damp to extinguish open flame mine lamps is not immediately hazardous; that is, the lights having become extinguished, a warning is thus given and men should and usually do leave that part of the workings at once. The oil flame will burn in a still atmosphere containing black damp until the oxygen in the mine air is reduced to 16 per cent. An acetylene flame will burn in such an atmosphere until the oxygen is reduced to 12 per cent. This means that the flame must be kept perfectly still and there must be no air current whatever. If the lamps are worn upon the cap or there is a current of air, these extreme figures will be very considerably modified. Danger to life from oxygen starvation does not begin until certainly 10 per cent or less has been reached. Again it may be said that no claim is made that air containing only 10 per cent of oxygen is physiologically advisable any more than it can be said that the air in an improperly ventilated auditorium filled with people is physiologically advisable. None of the common flame

illuminants will burn in an atmosphere where the oxygen content has been reduced to the immediately physiological danger point and therefore the oil, candle and acetylene flames give adequate warning. It is clear, therefore, that where the impurity in mine air is carbon dioxide, no open flame lamp is an adequate warning but that where the atmosphere is black damp, all the flame illuminants give warning. The miner's lamp, itself, has been subject to many improvements and as now sold throughout the country, is simple, efficient, substantial and well calculated to serve its purpose. With several hundred thousand lamps in use, there have been very few and no serious accidents. The lamps are now provided with two or three extra carbide receptacles, and when one is removed, containing the sludge, all that is necessary is to put the cap on it and remove the sludge in the container from the mine completely. The relative cost of using acetylene has been estimated many times against oil, wax and candles at various places and at various prices. Candle power considered, there is really no comparison as to cost, the advantage being so much with acetylene owing to the fact that the use of the reflector concentrates the light at the point of use, whereas with oil, the rays go in all directions and a large percentage are lost. Compared, however, light for light, acetylene costs about half as much on the average as oil and less than half as much as candles. The absence of smoke in the case of acetylene increases the amount of useful light and permits the more direct application of the rays in a given direction. The increased illumination aids materially in safeguarding the miner from the possibility of falls and gives better warning of obstacles and dangers. The acetylene mine lamp is clean, both in itself and its products of combustion. Its record is clean and it has passed through the experimental stage to the point where lamps are now made to meet all requirements and as most mine lamps are now equipped with self-lighters, even the match hazard, which accompanies other illuminants, is eliminated. The extended use to which acetylene has been put, not only below ground but above ground, has demonstrated its usefulness, beyond all question and as its application to mine requirements has extended, the old prejudices have given away to the practical knowledge of the illuminant and the universal verdict of the miners is that it is a distinct and notable advance and one wholly to their advantage. Perhaps the best statement of the whole subject in a nutshell is to be found

in Bulletin 57 of the United States Bureau of Mines, page 127-8, entitled "Safety and Efficiency in Mine Tunneling," by David W. Brunton and John A. Davis, where the authors state:

"One is tempted to say that the ideal means of tunnel illumination is found in the portable acetylene lamp, combining as it does the advantages of other illuminants, while avoiding most of their defects. It may be obtained on the market today in a number of different designs and sizes adapted for practically every kind of work; the one most generally observed at the tunnels visited was about the size of an ordinary fruit can and capable of burning for eight or ten hours on one charge of carbide and water. Although too large for use on a cap, it was provided with a hook so that it could be suspended from any convenient place. Lamps suitable for wearing on a miner's cap are obtainable and will burn for two or three hours without recharging—an operation easily performed in two or three minutes. The initial expense of an acetylene lamp is not high and, with the possible exception of the electric arc, it furnishes the brightest known artificial light used for underground work, consuming only one-fifth as much oxygen as candles. It is ordinarily provided with a reflector, which not only concentrates the light upon the work where it is needed, but shields the flame from drafts so that it will burn steadily unless placed directly in front of the exhaust from an air drill. Extensive use by some of the larger mining companies in this country has shown that the cost of the carbide is much cheaper than either oil or candles, the use of acetylene lamps cutting the cost of light practically in half. At the Saginaw mine, Menominee Range, Mich., the cost is reported as only two cents per shift of ten hours. Such lamps require practically no attention, are completely portable, and are not subject to breakage as are incandescent lamps. By giving the workman plenty of light his efficiency is not only increased, but he is better able to guard against the dangers of underground work, such as an insecure roof, an unexploded stick of dynamite in the muck pile, or any other of the many dangers to which he is at all times exposed."

A Federal Leasing System

BY HON. JOHN F. SHAFROTH,
SENATOR FROM COLORADO.

A leasing system by the nation, creating the relation of landlord and tenant with the citizens of a state or territory, is inconsistent with our form of government and generates conditions that will make it a failure. The government can sue the lessee for a breach of the contract, but the citizen can not sue the government—his sovereign—on the old theory that “the king can do no wrong.” What a travesty on justice. They do not stand upon an equal footing as landlord and tenant between citizens of the same country. The government is not only the landlord, but the lawmaker and practically the determiner of all disputes. Years ago a great wrong was perpetrated on the citizens of the San Luis Valley, Colo., by the secretary of the interior refusing them rights of way for canals and reservoirs for irrigation projects under the general law. A rich valley of more than 1,000,000 acres ever since has remained a barren waste. For years we have pleaded with the government to bring suit in the United States courts against the claimants of water to test the rights claimed, but without avail. Senator Thomas is now trying to have a bill passed authorizing the persons injured to sue the government, in its own courts, to determine their rights.

The purpose of our republic is to control national, and not local, affairs; to govern its citizens and not to go into a leasing business which must produce disputes between the sovereign and the citizen. The object of the government has always been to aid settlement and development in order to produce loyal citizens who, not only by their lives but by their resources in times of distress, will support the republic. A man will fight and die for his own home and property, but not for that of his landlord. Who ever heard of a country that was made great by tenants? To produce the best conditions the freest opportunity must be given for that development. Anything that imposes restrictions or difficulties hinders and impedes them. In order that a leasing system may be self-supporting there must be that selfish interest on the part of

the landlord which exacts a sufficient rental to make the property pay, irrespective of development. If the rental is low, the system will not be self-supporting; if the rental is high, it produces an increased tax on production which causes an increased price of many times the royalty to the ultimate consumer.

DOUBLE JURISDICTION MAKES FEDERAL LEASING SYSTEM IMPRACTICABLE.

There will always be a conflict of jurisdiction between the officers of the nation and of the state as to the police powers to be exercised relative to the properties which are the subject of the leases. These conflicts will surely produce dissatisfaction, irritation and litigation.

We have in Colorado and in most of the Western states coal-mining bureaus, with the necessary inspectors. They are and have for years been exercising police powers which belong exclusively to the state. They can compel large and costly improvements to be made in order to prevent gas explosions, such as the construction of air flumes extending hundreds and hundreds of feet. They can require daily sprinkling of the coal dust. They can order timbering and propping on a large scale to prevent cave-ins. They can seize a mine and shut it down if they believe it dangerous. In fact, it is within their power to make a coal-mining enterprise a success or failure. All of this power is necessary to prevent the sacrifice of human lives. When the state attempts to exercise its police powers as to the working of a mine leased by the nation, it is certain that conflicts between the officers of the federal government and of the state will arise, producing not only irritation and discontent, but a limitation of the jurisdiction of the federal government over its leased lands. The bills all provide for the secretary of the interior prescribing the rules as to diligence, skill, care in operation of the property, and as to the safety and welfare of the miners.

We have also in Colorado and most of the mining states metal-liferous mining bureaus and inspectors with the same powers as to safety and sanitation.

We have in the arid West full corps of water commissioners—seventy in my state—with numerous deputies. They have power under state laws to distribute the waters of their districts according to the decrees of the state courts for domestic, agricultural, mining and power purposes. If for power purposes, large reservoirs are

conducted by lessees of the government, the use of the water therefrom will supplement the flow of the stream at times when it may not be needed for irrigation. To withhold that water from irrigation until winter, when it will be most needed for the generation of power, will be unbearable. To place the disposition of those waters under two jurisdictions, each having a different interest to serve, can not fail to produce confusion, chaos, disputes, and sometimes personal conflicts. If there is one thing above another for which a farmer will fight, it is water with which to save his burning crop. Will not these conditions make a leasing system by the federal government impracticable? Does not all of this demonstrate that the advice of the late Justice John M. Harlan of the United States supreme court is sound when he said:

A national government for national affairs and state governments for state affairs is the foundation rock upon which our institutions rest. Any serious departure from that principle would bring disaster upon the American system of free government.

DISASTROUS EXPERIENCE IN LEASING LEAD MINES OF MISSISSIPPI VALLEY.

The country has had an experience which should teach us a lesson. In 1807, in order to stimulate the production of lead, a munition of war essential to the defense of the nation, congress authorized the secretary of war to lease the lead mines upon public lands in certain territories of the union at a royalty of one-sixth of the production. It never attempted to impose such a system upon public lands within the limits of a state. The law was in force when Missouri, Arkansas, Iowa, Illinois, Wisconsin and Indiana were admitted into the union. It was then that citizens, legislators and governors began to protest against the leasing of any natural resource within the limits of a sovereign state. It was then that Senator Thomas H. Benton of Missouri began his fight, which lasted for years, against the legislation. After the admission of Illinois into the union its governor openly advised that the citizens of that commonwealth absolutely refuse to pay any royalty to the federal government for the ores extracted, on the ground that, in equity, the ores belonged to the citizens of the United States, people who had located and mined the ground, and the government could not appropriate to its own use resources which it held only as a trustee.

President Polk, in a message to congress in 1845, said:

The system of granting leases has proved to be not only unprofitable to the government, but unsatisfactory to the citizens who have gone upon the lands, and must, if continued, lay the foundation of much future difficulty.

The cost of maintaining the system had been four times as great as the royalties collected. The secretary of war approved the report of a military examiner, who declared that the benefit to the government bore "no just proportion to the injury done to the mineral region of the country, first by retarding the settlement of the country, and, second, by the demoralizing influence of the system."

Committees of congress reported time and again in favor of the repeal of the leasing statute. One of the reports contained the following:

Your committee believes that it is bad policy to introduce or continue in any state or territory in which the public lands are any system the effect of which shall be to establish the relation of landlord and tenant between the federal government and our citizens.

* * * * *

When the United States accepted the cession of the northwestern territory, the acceptance was on the express condition and under a pledge to form it into distinct republican states and to admit them as members of the federal Union, having the same rights of freedom, sovereignty and independence as the other states. This pledge your committee believes would not be redeemed by merely dividing the surface into states and giving them names, but it includes a pledge to sell the lands, so that they may be settled, and thus form states. No other mode of disposing of them can be regarded as a compliance with that pledge.

In another report we find the following:

Now, no interest is felt by the tenant in the improvement of the property itself; he does not become fixed in his employment to any spot, is sparing of his outlays, erects no permanent works, nor does he call in the aid of science and practical skill to overcome the obstacles which meet him in his enterprise. Make them private property, capital, science and skill would be employed in erecting machinery and the deepest bowels of the earth explored with eagerness and profit for their hidden treasures. Subject them to the unimpeded action of individual energy, new and rich developments would be continually made, and the whole country benefited by the augmented supply at a cheaper rate which such investments would certainly produce.

At last, in 1847, after retarding the development of the country for forty years, the law was repealed.

President Fillmore, in a message to congress on December 2, 1849, referring to the policy to be pursued as to the mineral lands of California, said:

I was at first inclined to favor the system of leasing, as it seemed to promise the largest revenue to the government and to afford the best security against monopolies; but further reflection and our experience

in leasing the lead mines and selling lands upon credit have brought my mind to the conclusion that there would be great difficulty in collecting the rents, and that the relation of debtor and creditor between the citizens and the government would be attended with many mischievous consequences.

The supreme court of the United States, in *Mining Co. vs. Consolidated Mining Co.* (102 U. S., 167), decided in 1880, in reviewing the history of the systems of royalty as applied to the precious metals, and the careful consideration given by congress, and the conclusion of our government as to the best policy to be applied to the mines of California, said:

Matters remained in this condition with slight exception until July 26, 1866, when congress passed a law by which title to mineral land might be acquired from the government at nominal prices, and by which the idea of a royalty upon the product of the mines was forever relinquished. (14 Stat., 251.)

What a glorious result followed from that policy. Millions and millions of dollars in precious metals, mined, perhaps, at a cost in labor on the average equal to the value of the ores produced, but which furnished an indestructible circulating medium as basic money that relieved commerce and produced an era of prosperity throughout the entire world.

Is it practicable, after such a signal failure of the federal leasing system, to resurrect that tried and condemned policy and make it a success? Are not human interests and passions the same now as then? The legislatures of the Western states are protesting now just as those affected in the same way protested then. The legislature of California has demanded that the public lands be taxed if they are to be held in perpetuity by the federal government.

It has been said that times have changed since 1847 and that now a leasing system by the federal government would be a success. What is there to sustain such a contention? Has there been any experience that would justify such an assumption? No; but there has been and is now taking place a vexing experience which demonstrates the contrary.

LEASING UNDER FORESTRY BUREAU HAS PROVEN A FAILURE.

Under the law setting aside forest reserves, which was enacted to conserve, by the shade of trees and brush, the snow from melting at the sources of streams until midsummer, when the waters would be needed for irrigation in the valleys below, the forestry bureau, without any direction in the law, proceeded to charge for the grazing of cattle and sheep upon those forest reserves. It first started

with a low charge, and has increased the rates in some reserves more than 700 per cent, in an effort to make the system pay. Yet the result has been that the collections from the grazing taxes and timber sales have amounted to only about one-half of the expenses of the administration.

The following table shows the expenditures and receipts for the last two years:

Fiscal Year.	Expenditures.	Receipts.	Net loss.
1912	\$5,217,827.41	\$2,109,256.91	\$3,108,570.50
1913	5,092,111.41	2,391,920.85	2,700,190.56

The appropriation for the year 1914 is \$5,299,679.

Do these figures indicate that a leasing system of the federal government is practicable? Do they indicate that the change in the times has been favorable to the existence of the system of landlord and tenant, between the sovereign and its citizens? The difficulty is that in order to make a leasing system a success it is necessary to increase royalties, and that is one of the very causes that produce irritation between the officials and citizens. It is the same feeling of resentment that always follows when the landlord raises the rent. It is very much magnified by governmental action, because our citizens, knowing that all the Middle Western states received the benefit of their own resources and that we are entitled by our respective enabling acts to the same treatment, feel that such action upon the part of the federal government is oppressive. Our people can never get over the feeling that wrong is being perpetrated upon them.

Is a leasing system by the federal government under such circumstances practicable? How long will the government be willing to expend \$3,000,000 a year in excess of receipts for the purpose of maintaining a federal leasing system when the people most interested abominate it and believe that it is against their interest?

There might be some excuse for a state leasing system as to its own lands, because, if successful, it creates a fund which takes the place of taxes for the support of the government among the very people who pay the royalties. But a leasing system by a state is impracticable. Colorado has a sale and leasing system under which it leases considerable of its grazing lands, but it is able to obtain only nominal rentals—5 cents an acre per year for such lands without water. Such lands sell for \$5 to \$10 per acre. A 5 per cent return would yield 25 to 50 cents per acre per annum,

but 5 cents an acre is only from 1 per cent to one-half of 1 per cent on the value, or less than the taxes that would be paid upon the same were they in private ownership. In other words, rather than maintain a perpetual leasing system, it would be more remunerative to the state to give its lands away, so they could become the subject of taxation. So it is selling as fast as applied for. The receipts to the national government from grazing taxes and sales of timber from the forest reserves are only $1\frac{1}{3}$ cents per acre per annum. Of these receipts 25 per cent and 10 per cent are paid to the state for school and road purposes, but that is only a little over one-third of a cent per acre per annum, which is not one-fifth of what the taxes would be if the land were in private ownership.

LEASING SYSTEM FOR COAL LANDS WILL PROVE A FAILURE.

A leasing system is still less practicable as to coal lands. Competition is so sharp in the production of coal that no operator can hope to succeed unless he has the most improved machinery and the best facilities for mining and marketing his product. Enormous capital, therefore, must be invested in nearly every instance, and a railroad must be built to the mine from the nearest operated line. Men will not make such large investments when they can obtain only a lease, subject to forfeiture for failure to perform any of its provisions.

No better illustration of this fact exists than that found in the testimony of Gov. Spry of Utah before the house committee on the public lands. He said:

We have the Utah Copper Co. out there in Salt Lake valley, operating at Bingham Canyon, about 20 miles from the city. There is a company that went in there, and solely because of confidence in that dirt they spent \$30,000,000 before they had \$1 returned to them from profits. * * *

If we had put that proposition (referring to a leasing system) up to the Utah Copper Co., they would have laughed at it. * * *

Gov. Spry further testified that the company employs 3,000 men and is responsible for a population of 25,000 people in the Salt Lake valley. Under a leasing system capitalists would not have developed this great property. Consequently the nation would not have received the benefit of its large product, with its influence in lowering prices, and Utah would not have received the additional 25,000 inhabitants.

Is it not plain that a governmental leasing system is impracticable, especially as to large enterprises, and is it not equally plain

that the states affected would thereby be retarded both in development and population?

Capitalists will not lend money to open up, develop and buy expensive machinery for coal mines held under leases, subject to forfeiture. Who ever heard of a bond issue secured by mortgage upon a leasehold mining estate? There is no market for such bonds. Hence the enterprising business men, unless they are very rich, will practically be excluded.

Now, nearly all of the large coal companies are organized by men of small means, who interest the capitalists in the enterprise. Lessees usually work the mine to their own advantage and not for its permanent improvement, as do proprietors.

The state of Colorado owns enough coal land to supply the inhabitants of that state for 300 years, yet it is able to lease only 3 per cent of its coal lands at 10 cents per ton royalty, and less than one-half of those leased lands are being worked. Although there are leasing laws for coal on state lands in Wyoming, Utah, Idaho, Oregon, New Mexico and North Dakota, yet no one has found it sufficiently attractive to take out a lease in any of those states. If a leasing system backed by the good object of obtaining money for school purposes in the lessees' own state is a failure, how much more certain must be the failure of a system by the federal government, the royalties of which the people feel are wrongful exactions?

A most inconsistent position of the government in connection with the leasing of its coal lands to its citizens arises from the fact that in order to make the system a success it must encourage the high price for coal, so as to tempt the operators by profits to enter into leases. On the other hand, the government owes a duty to the people to curb the price of coal, and hence discourage high prices.

COST OF COAL UNDER OWNERSHIP AND LEASING SYSTEMS.

While a leasing system by the government has been a success in some countries from the standpoint of the lessee, it has been a failure in those same countries from the standpoint of the consumer and to the industries dependent upon cheap coal. Under its system of mining the coal by proprietors the United States has produced the cheapest coal in the world and yet paid the highest

wages to the miners. It is this cheap coal that has stimulated our production of iron, steel and many other industries.

In Senate Document No. 482, by Thomas P. McDonald, there is given a table, compiled from official reports, which shows that under the system now in force in the United States the price of coal at the mouth of the mine is not much over one-half as high as in those countries which have a leasing system. Mr. McDonald's table, referring to bituminous coal, is reproduced, as follows:

	Year.	Tons.	Value per ton at mine.
United States	1911	¹ 405,757,101	\$1.11
Nova Scotia	1911	² 6,208,444	2.01
New South Wales.....	1911	³ 8,691,604	1.82
New Zealand	1912	⁴ 2,066,073	(⁵)
New Zealand (state mine).....	1912	⁶ 371,628	2.00
Victoria (state mine).....	1912	⁷ 396,042	2.28
West Australia		¹ 249,890	2.22

¹ Coal production in 1911. By E. W. Parker of the U. S. Geological Survey.

² Report of department of mines for year ending Sept. 30, 1911.

³ Annual report minister of mines, New South Wales.

⁴ Official reports relating to mines and minerals.

⁵ Not given.

⁶ Report of manager state coal mine, Nov. 30, 1912.

⁷ Report of manager state coal mine, 1912.

¹ Report of mines for 1911.

The following table, taken from the same senate document, shows the price of bituminous coal per ton at the mine for 1911, according to the United States Geological Survey, to be even lower than that given above:

States.	Tons.	Price at mine.
Illinois	53,679,118	\$1.11
Indiana	14,201,355	1.08
Pennsylvania	144,754,163	1.01
Ohio	30,759,986	1.03
West Virginia	59,531,580	.90

These figures demonstrate that in the production of bituminous coal there is no monopoly in the United States. Nor can there ever be, since there is enough coal in the public lands to supply the world for 5,000 years, and the lands can be disposed of under restrictions against large holdings, which will follow the title.

In view of these figures, can it be said to be practicable to change from the tried policy of the disposition by sale of the coal lands to a leasing system?

In the statement of Mr. McDonald before the senate committee on territories, on May 7, 1913, at page 177 of the hearings, is the following:

The keen competition in the production and sale of coal in the United States under our system of private ownership of the coal land is saving the industries that consume our coal, as compared with those countries operating under the leasing system, hundreds of millions of dollars annually. Our present consumption is about 400,000,000 tons per year. Now compute the annual saving to the industries of the United States on this annual coal bill of 400,000,000 tons as against New South Wales, a saving of \$0.64 per ton, \$256,000,000; Nova Scotia and New Zealand, a saving of \$0.89 per ton, \$356,000,000; West Australia, a saving of \$1.11 per ton, \$444,000,000; Victoria (state mine), a saving of \$1.17 per ton, \$468,000,000.

This indicates a saving to the industries of the United States of approximately a million dollars per day—no mean advantage when we are seeking a world's market for the products of our mills and factories.

Because of these facts we contend that it is utterly impracticable for the government to establish a leasing system under which operators paying royalties can meet the sharp competition now existing among companies which own their own mines and use the most modern machinery for the extraction and transportation of coal. Hence the proposed change will result only in locking up the resources of the West, and retarding their development. By continuing the unlawful permanent orders of withdrawals or by accomplishing the same thing by excessive valuations, communities and industries may in a few instances be driven to take leases, but for a general policy of development it will prove a failure.

For these reasons I contend that the establishment by the government of a leasing system for the natural resources of the public domain within the boundaries of a state would not be practicable.

Why Optimism?

GEO. OTIS SMITH,

DIRECTOR, UNITED STATES GEOLOGICAL SURVEY.

Europe's war finds its echo in America's industry. What contrast could be greater: on the one shore of the Atlantic all activity seemingly destructive in purpose; on the other shore, every energy directed along constructive lines: absolute waste of life and property as opposed to production of wealth and betterment of life.

Even though it is at a distance that we view the terrible disaster that threatens the whole continent of Europe, optimism seems a lost art. Yet sooner or later this epoch of catastrophe must be followed by a period of repair, and the longer this period is delayed the greater will be the needs involved in the reconstruction and replacement. Where war has torn down at terrible speed, peace must build up slowly.

The present world crisis thus becomes America's opportunity, and already possibilities are opening up on every hand. Yet mark the words just used—opportunity and possibilities. The element of certainty is not so prominent that we may expect to gain much in this period of readjustment that must follow except as we grasp the opportunity; to win industrial prosperity we must go after it. Possibilities will become ours only as preparedness replaces unpreparedness. For many reasons, therefore, optimism under present conditions needs to be something more than a state of mind.

Those of us who may have formed the habit of regarding industrial conditions in this country as fairly definite and fixed have had a rude awakening during the past few months. The interruption of international trade stopped our exports of cotton and copper and our imports of dye-stuffs and potash, whereby several important industries were wellnigh paralyzed, and even now the recovery seems slow if not uncertain. Yet varied as have been these changes in market relations and commercial interactions, and startling as has been this disturbance of the

whole balance of industry, certain fundamental facts and laws remain for us to build upon and indeed the lower course of foundation stones for optimism has already been laid.

Six weeks ago when I selected the title for this talk before the American Mining Congress, I expected a more difficult task in explaining the faith that is in me. In these few weeks, however, the business situation has so materially improved that optimism may seem almost compulsory and my presentation of the subject that much more commonplace. Evidence of business betterment is before us on every hand, and the reasons for optimism have been set forth in the past month by many speakers and writers, especially men in close touch with the business situation.

This evidence in the case is known to all and needs only to be called to mind. The United States farmer has harvested a five billion dollar crop and there is a high-price market for all our surplus food stuffs; already our grain is pouring across the Atlantic from every great seaport. Foreign orders have started our factories to turning out goods such as have been heretofore manufactured in the war-swept countries. The millions of men who are fighting are not working, and yet these hordes of soldiers must be clothed and equipped. Rush orders are reported for gloves and shoes by the million pairs, for blankets by the hundred thousand, for sweaters and under-garments by the million, and even shaving-brushes by the half million. Many textile mills are running over time and factory operation has increased, which at once tends to relieve the stagnation in the steam-coal trade. The steel situation has turned from serious depression to rapid improvement and the metal workers are receiving large export orders. All these facts point to a general business improvement in which the whole mineral industry may soon expect to share.

No less real, though perhaps less conspicuous, is the effect of the new federal banking system in ending our financial emergency, which was acute and threatened to become chronic. To-day the financial horizon is so nearly cloudless that the prophets of bad weather have little upon which to base their predictions. The new system makes the money reserves mobile as never before, and extension of credit is now possible, without the veto power remaining in the hands of a small group of big men.

There is more promise to the industrial world in having the control of credit under law, with the people's own officers, rather than in having it under cover, with the representatives of big business.

The establishment of foreign credits in this country carries large promise of the continuance of the present gratifying receipt of export orders and the consequent industrial activity. Our current indebtedness to England and other creditor nations is apparently less than has been generally supposed, so that the shift in balance of trade which has been so rapid during these four months of war may even lead the more optimistic of us to see our country changing from a debtor nation to a creditor nation. Sir George Paish is reported as declaring a billion dollar trade balance in favor of the United States as possible even in 1915, which would be a 50 per cent increase over 1913. Already the recovery has been rapid since the outbreak of the war. In August the balance was against the United States by 20 million dollars, but in September our exports exceeded our imports by 17 million; for October this favorable balance increased to 57 million, and last month the exports for the ten principal custom districts exceeded the imports the first week by $10\frac{1}{2}$ million dollars, the second week by nearly 22 million, the third week by 14 million, and the fourth week by 16 million, or 63 million for the whole month.

Still another reason for belief in business betterment is the recognition, now becoming widespread, of the general interdependence of big business and the general public. On the one side, the people are realizing that they are and have been in reality the silent partner in big business, and now that there has come the promise of some regulation that will in large part prevent monopolistic centralization, the people are interested in getting their share of returns that can come only with operation at a profit. On the other hand, the managers of the large corporations, the trustees of the investing public, are beginning to see that a certain financial security goes with public confidence, and that the attitude to the public so tersely expressed thirty years ago by a pioneer in railroad financing does not pay dividends today.

Secretary Redfield recognizes three periods of business condition as naturally following the declaration of war on August

last—those of shock, stimulation, and readjustment. These three must be expected to affect in the same order all branches of American business, though the transition from one period to the next may not be simultaneous in all branches. Thus those of us who may be specially interested in the copper market may find some encouragement in the fact that for several weeks after war was declared the exportation of wheat felt the shock and thousands of carloads accumulated at Eastern ports. Yet since September, wheat has been pouring across the Atlantic as never before. With cotton the period of shock has been longer, but stimulation of export has now begun. With copper the resumption of sales to Europe seems slow in coming, but come it must, for in the modern world, whether at war or peace, the red metal is a necessary of life.

Of course optimism is apt to go to extreme. Already we are hearing such expressions as "trade boom," or "opportunity unparalleled in history" and "avalanche of prosperity," and even hard-headed business men are quoted as thus characterizing the present situation. Some of us, however, are timid when it comes to avalanches, for even avalanches of prosperity will sweep men off their feet. All this kind of talk indicates that a period of over-stimulation may threaten us, a condition that is somewhat symptomatic of the American temperament. The four months' record, however, can be summarized thus: while European countries have been mobilizing their armies and calling to the field of battle their reserves of soldiers, America has mobilized its credit and begun to send forward to the market its vast reserves of food-stuffs and mineral products.

Turning now to the special review of our mining industry as affected by the war, what reasons are there for optimism? I find the largest source of assurance of the ability of this industry to weather the period of readjustment in the record of its development in the past. The epoch of rapid growth of the mineral industry began about 35 years ago, and this third of a century just passed has witnessed a wonderful development. Clarence King in the first administrative report of the United States Geological Survey analyzed the situation in 1879 in these words: "We are yet at the very threshold of the industrial life of the Republic." and looking forward he added: "The mineral industries will soon reach an annual yield of a thousand million dollars of value." May I now

remind you that last year's record was two and one-half thousand millions.

For this period of development since 1880, statistics of the mineral production are available and the extent of the expansion of the industry can be summed up in the statement that the value of the output has increased nearly seven-fold while our population has less than doubled. If we compare directly the output per capita of population, the record of increase in the more important mineral products becomes really instructive or even inspiring. Thus in this period of 33 years the consumption of coal per capita has increased from less than a ton and a half to nearly six tons—an increase of 357 per cent. Similarly the production of iron ore increased 337 per cent, of petroleum 391 per cent, copper 1,200 per cent, cement 2,087 per cent; but gold and silver increased only 23 and 22 per cent respectively, while with lead the increase was 125 per cent, and with zinc 638 per cent. This is indeed a record of which mining men of this generation may be proud.

If statistics for the more important agricultural products are studied in a similar manner it is found that the total increase in the same period has not much more than kept pace with the growth in population. This is true of the two leading grains, corn and wheat, the one having somewhat more than doubled, the other not quite doubled in the third of a century, so that the production per capita shows only a small percentage of increase. With cotton the gross increase has been larger, approaching 130 per cent, but wool has utterly failed to increase as rapidly as the population. It is only sugar that shows an increase, both in domestic production and in consumption, at all comparable with that of the half dozen minerals mentioned, the per capita increase being 394 per cent, or about the same as the other carbon compounds, coal and petroleum.

There are other comparisons that may be made with the result of strengthening an optimistic tendency. In this period metal mining has passed from the bonanza stage to the low grade proposition—a change which, as Doctor Raymond has remarked, by the creation of larger and more permanent communities has laid safe foundations of civilization and progress. The baser metals have come to the front and the small increase in output of gold and silver has been made in part with these noble metals in the role of by-products in copper and lead mines.

An even more gratifying phase of this mining development is the marked increase in man's productive capacity. Let us take the 20-year period 1889-1909 and analyze the coal-mining record. Roughly stated, the number of mine-workers a little more than doubled in that period, the output of coal more than trebled, and the capital investment more nearly quadrupled. The exact percentages are 123 per cent increase in employes, 226 per cent increase in production, 252 per cent increase in capital. Stated in terms of efficiency, the mine-worker increased his individual output from 471 to 691 tons a year, while the average annual output per dollar of capital remained nearly the same, about two-fifths of a ton, the increase in capitalization per ton of output being less than 8 per cent. Most of this increase in capital outlay was due to equipment expenditure, the improvement in mechanical equipment appreciably adding to the mine-worker's efficiency and comfort.

In iron mining the record for the same period is even more striking; the number of miners increased less than one-half, the capitalization nearly trebled, and the output nearly quadrupled. In the iron mines, then, both labor and capital became more efficient, the output per miner increasing from 385 to 995 tons and the production per dollar of capital from one-seventh to one-sixth of a ton. In the case of coal mining, we know that this improvement did not halt with the census year of 1909, for since then the coal output per miner has increased another 71 tons, or more than 10 per cent in the four-year period. All this tells the story of steadily increasing efficiency of mine-worker, mine equipment, and mining methods—that is, of the contributions by labor, capital and engineering.

The net results of this marvelous development as well as this increased efficiency is that not only has the mining industry kept pace with the demands of other industries, but that in certain mineral products we are able to turn out much more than we can consume at home. In the last five years this excess of copper mined has been about 50 per cent and of copper refined in American works, fully 100 per cent, one-third of the copper from domestic ores and one-half of the metal turned out by the refineries having been exported. The other mineral product which is produced in the United States in such quantity as to make the industry largely dependent upon a foreign outlet is petroleum, of which 20 per cent is exported in one form or another, but chiefly as refinery products. Of

such important mineral products as coal and cement the exports have been insignificant, and the same is true of exports of lead and zinc smelted from domestic ores. Yet for all of these mineral products the mine, mill and smelter capacity is far in excess of the demands of domestic consumption. Obviously there is good opportunity for increase of output without appreciable capital outlay, provided a market can be found for the product.

Under present conditions the domestic market may well be looked to for increased consumption of the home output of some minerals which have been imported from European countries, such as aluminum, arsenic, barytes, fluorspar, magnesite and manganese, most if not all of which can be found in the United States in sufficient quantities to meet the domestic demand. Again, the American manufacturers of certain articles that have been imported from Europe should be expected to make large demands for the metals which form the basis of those manufactures. Judging from the inquiries that come every day to the Geological Survey, this type of the expansion of the home market is lively and should result in the aggregate in some appreciable increase in the demands upon the mineral producer.

It is, however, the opportunity of a larger foreign market for American mineral products that now seems more alluring. During the war period the war itself will continue to create demands upon the mineral industry of America. The historian Ferrero is quoted as terming the European combat a war of iron and coal; he might even more aptly included gasoline as indispensable in modern warfare. The consumption of metal on the firing line and of fuel behind the line, on both land and sea, is largely in excess of any normal use in time of peace.

And when the peace comes to Europe for which peace-loving America prays, the indirect effects of war must continue to benefit American industry. The markets now opened to our zinc, our steel, our coal, by reason of the enforced shut-down of Belgian smelters, German mills, and English and French mines, must be supplied from this country even after the treaties of peace are signed. Years will be necessary to put industry on its former footing in the countries now at war, and it seems reasonable to expect that currents of commerce now set up will not be quickly changed after peace has been restored.

Industrial independence is a goal toward which a nation should face, but a goal which it should not have either the intention or the desire to attain. Even in a country so diversified as ours in its natural bounties domestic production of everything consumed is not desirable nor profitable. Exchange of commodities with foreign countries becomes necessary, for instance, just as soon as America can mine and smelt copper or produce and refine petroleum more cheaply than it can grow tea or raise sheep or cattle. Then the home market for cheap meat and wool and tea necessitates a foreign market for our copper and oil. Of course, the more we as a people are independent of goods sent from other countries the less we are dependent on a foreign market for our own products. Large imports necessitate large exports, else the balance of trade will swing too far on the wrong side. Nor can we shut our eyes to the volume of exports needed to meet the interest obligations due the foreign capital invested in our railroad and industrial securities.

As we look toward the south we find that our commerce with South America for the last four years has been one-sided to the extent of an unfavorable annual trade balance averaging more than 80 millions of dollars. The fact that the balance of trade is against the United States in two of the three "A B C" countries should be taken only as an invitation to export more. That 80 millions not only measures the present opportunity for exports to South America but also suggests the chance for further development of trade relations. We need meat and hides from Argentina, tin ore from Bolivia, rubber and coffee from Brazil, nitrate from Chile, platinum from Colombia, cacao from Ecuador, wool from Peru and Uruguay and coffee from Venezuela. What can we export in exchange?

To increase industrial prosperity this country needs to export finished rather than crude products and to import raw materials rather than manufactures. It is the product of American labor rather than the bounty of our natural resources that preferably should go into the world's markets. Betterment of industrial conditions can come best through expansion of manufacturing. The increase in the element of labor in the product exported will mean that we are not bartering away our heritage of natural resources, but rather that we are using these resources as a basis simply for the expenditure of labor, which renews itself.

Fortunately only a small part of our iron and steel exports is in the form of pig, bar, billets and ingots, and indeed not only do the

manufacturers of iron and steel represent by far the largest values, but the steel rails and wire alone outweigh the crude metal exported. In our copper exports, however, the ratio is quite the opposite, the value of exported manufactures of copper being only about one-sixth of that of the copper exported in the form of pig, ingot and bar. This contrast is suggestive, and indeed some immediate expansion in the export of copper manufactures seems warranted. For example, the item of electrical equipment and supplies, of which the exports have doubled in the last eight years, with only a small percentage going to Europe, suggests that we now have an excellent opportunity to secure a larger market, while the principal European competitor of the United States is temporarily eliminated.

In the matter of crude minerals, whether fuels or metals, the export trade of the United States promises expansion. Too much emphasis can hardly be placed upon America's strategic position in the possession of large reserves of coal. Not only does the United States mine 40 per cent of the world's output of coal, but our coal tonnage in the ground is one-half the known reserves of the world. Mr. Parker has lately pointed out that two diverse policies have governed the two countries that rank next to the United States as coal producers. England has promoted her commerce by exporting about 20 per cent of her coal output, while Germany, with larger coal reserves, has exported little coal, preferring to use it in her own factories, the products of which, however, go all over the world. It would seem that America might safely occupy middle ground in the policy of coal exports and yet increase greatly her foreign trade. The exports have been only about 4 per cent of the total production, and of this only a small fraction—one and one-fifth million tons—went across the seas last year. A change, however, has already set in, for large contracts are reported with Italy, Greece, Argentina and Brazil.

Coming down to bottom facts, the United States will profit by the European war only as the nation makes larger and wiser use of its mineral resources. Foreign markets in the main can be won and held only as the quantity or quality of the "Made in America" product rivals that of the goods offered by the other producing nations. The buyer, whether he be in the far East or in South America, wants the most and the best for his money. Of course at a time like the present we can not shut our eyes to the obligations of a world-humanity, and just as American food-stuffs are now

being given to the starving Belgians, so America capital may later be forced to bear its share in the financial readjustments that must follow a long-continued war. Yet it would seem a safe rule of national conduct that industry should begin at home, and therefore every industrial opportunity in America should be improved. If these opportunities are recognized and grasped every one of us can indulge in optimism.

The Adjustment of Industrial Disputes Affecting the Public Service

BY HON. JAMES A. EMERY,
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Ever since the organization and report of the Anthracite Coal Strike Commission in 1902, an increasing amount of thought has been given to practical methods of settling the enormously destructive and wasteful industrial controversies which at times paralyzing industry and transportation, have frequently caused incalculable economic loss; not only greatly injuring and sometimes ruining individuals, but obstructing or stopping service upon which the public is dependent for daily necessities. The Lemeux Act, Canada's legislative experiment with this problem, has been the subject of much discussion in our own country. It does not deny the right to strike or lockout, but endeavors to compel the parties to the controversy to submit their differences to an arbitration, the findings of which either or both may subsequently reject, but without which neither may legally strike or lockout. It is contended by the Canadian authorities and by many shrewd observers that the Act has a valuable moral effect. Although it is admitted that in the final test it is incapable of practical enforcement, since events have demonstrated that government could not, without civil war, undertake to confine a labor organization and its sympathetic supporters who struck in disobedience of the law. But the law and the public opinion which it developed have undoubtedly had the notable moral effect of decreasing trivial strikes and causing both parties in controversies to think before acting. The principle of the Canadian Act cannot be applied to private industry in our country under our organic law. It would create a condition of "involuntary servitude."

The mere stoppage of private industry, however serious to those involved, does not represent the form of strike most injurious to the public. We suffer from notable strikes, or threats of strike, not only on interstate railroads but on the various traction systems upon which cities, great and small, and their suburban communities which have grown up about them, are absolutely dependent not

only for daily transportation from residence to work, but for a continuous supply of the necessities as well as the conveniences of daily life. The suspension of such service is a community disaster, sometimes equal in the loss, suffering and inconvenience which it entails to the stoppage of the local light or water system. What is true of such a community catastrophe is true in a larger way not only of the great transportation systems, but of a few industries producing the fundamental necessities of life.

In purely private employment, these deliberate and concerted stoppages of industry, while often entailing great losses to both parties, are nevertheless the inevitable incident of the exercise of elementary private rights. The state can neither compel individuals to give work nor others to take it. The losses directly and indirectly suffered, however deplorable, are but incident to the exercise of personal rights, which, however directed by bad judgment, are part of the tax paid for the preservation of individual freedom, but when the service of a corporation or business becomes wholly affected with the public interest or dominated by that feature so that its uninterrupted operation is essential to well being or the life of the community, is it not a question whether corporations or large groups of individuals organized for the furtherance of their private interest, may not have their collective or individual contract of service controlled and regulated to protect the interest of the public?

It is not suggested that any individual or combination of individuals can be compelled to remain at work, but in view of the public character of the service rendered, may the state recognize and enforce, under penalty, a contract of service by which the individual employed by a public utility and the public utility itself, each under appropriate penalty, agree that the one will not lock out its employes, nor the other become party to a collective movement to paralyze the public service by quitting until the issue relating to conditions of employment have been passed upon by some impartial tribunal constituted by the parties. Such a contract, viewed from the standpoint of the employer operating the public utility, means that he agrees by virtue of the franchise which he receives and the character of his relation to the community, that he will condition his freedom of action by agreeing in his franchise not to do that which will deprive the community of his service. The individual or organized employe is free to make or reject the contract offered. He is not compelled

to enter into the service of the public utility, but having done so, he conditions his quitting by voluntary contract made in view of the character of the service rendered. Would such a contract make either party sustain any *involuntary* relation with the other? Would not the condition attached to the contract be one justified by the character of the service rendered and the public interest involved? For any form of arbitration which compels either party to continue to sustain a relation created without preliminary condition, there can be found but little defense. Private employment, least of all, discloses any condition which would sanction it. The issue here presented is whether or not the interest of the public in the continued operation of a utility privately owned and operated, but dedicated to a public service, is so dominant in the light of existing social conditions and necessities that its voluntary contracts of employment may and ought to be so conditioned.

The discussion may well proceed within a very narrow range of obvious public utilities. The principle, once recognized, is capable of transfer, always within rational limitations, to other spheres of like action. Within such limits is the application of the principle suggested desirable? It is obvious that it does not apply to all fields of industrial controversy, nor can any remedy hope to, but would it not ameliorate and greatly modify the conditions which too frequently exist in a vast and immediate field of necessary activity? Too frequently, in discussions of these problems, we undertake to cover too great an area of disturbance. A sound principle, rationally applied, within practical limits of immediate need and recognized authority, is a more profitable subject of discussion than the extension of untried and unprecedented proposals to the widest areas of disturbance. Sufficient for the day is the problem thereof.

Compulsory Arbitration

BY SAMUEL O. DUNN, CHICAGO, ILL.

EDITOR OF THE RAILWAY AGE GAZETTE.

The president of the American Mining Congress has asked me to write a paper on Compulsory Arbitration, and especially to indicate my opinion as to the advisability of advocating some method of bringing about such arbitration, or as close an approximation to it as would be practicable under our existing form of government. I regret that I have not had opportunity, since I consented to write something on the subject, to get together a larger amount of material and to put my thoughts in satisfactory form. All I can do is to outline the experience of a few countries with different forms of conciliation and arbitration, and indicate in a general way the conclusion which it would seem we may reasonably draw from their experience as to the form of governmental action regarding labor disputes which would be the most practicable and expedient under the conditions prevailing in the United States.

Governmental intervention in disputes between some classes of employers and employes is a natural result of the development of modern industry. When industries were small, and there were no large organizations of employers or employes, the public had little interest in controversies between labor and capital. The number of men employed by any person or concern was insignificant, and it made little difference to the public if there was a lockout or strike.

Owing to the course of industrial development there are now many concerns which employ thousands of men. In certain lines of industry there are organizations including many business concerns on the one hand, and the employes of many concerns, on the other hand. A lockout or strike in one of these large concerns or lines of industry may result in many millions of capital and many thousands of men being rendered idle. This has given the public a proper and important interest in disputes between capital and labor which it did not formerly have. The public feels concern regarding the economic waste that will result from such large investments and so many productive workers being idle. It feels a special con-

cern regarding the possibility of lockouts or strikes in certain industries because they would cut it off from the very necessities of life.

The situation as respects industries producing something or rendering some service the unbroken production or rendering of which is not essential to the public welfare is entirely different from the situation as respects industries producing something or rendering some service the unbroken production or rendering of which is essential to the public welfare. The public would not feel immediately and acutely the effect of the closing down of the steel mills, for example. It would feel more speedily and keenly the effect of a complete closing down of the coal mines, especially if this occurred in a season when the demand for coal was great. Still more keenly and acutely would it suffer from a serious interference with the operation of the railways, for under the conditions of modern civilization an interruption of railway service would soon arrest most of our industrial and commercial operations, and menace with starvation the entire population of many communities.

Whatever may be true as to industries on which the public is not dependent for necessities of life, it seems to be perfectly clear that the government has the right and duty to take whatever steps may be necessary in order to prevent serious interferences with the production of commodities or the rendering of services on which the comfort, the welfare and even the life of the people are dependent.

A distinction is drawn in law between public utilities and other concerns, this distinction being based on the theory that the operation of only the former is of primary importance. It would seem that under modern conditions the uninterrupted operation of coal mines is almost, if not quite, as important to the public as the unbroken maintenance of the service of public utilities and railways, and that therefore there is as much justification, economic and moral, if not legal, for the government interference in disputes between coal mine operators and their employes as between railways and public utilities and their employes.

Whether this interference should take the form of compulsory arbitration seems, however, very questionable. Compulsory arbitration involves, first, compelling the parties to submit their differences to arbitration, and second, compelling them to accept the award made. This is merely a modified form of slavery. To require

capitalists to give employment to men or bodies of men whom they do not want, at wages which they do not want to pay, or to require an individual workingman or a body of workingmen to work for concerns for which they do not want to accept, is inconsistent with enlightened ideas of liberty. It is a form of industrial conscription and should not be resorted to except in cases as extreme as those which justify military conscription.

It is not necessary, if the government is to intervene in labor disputes, whether on railways or in coal mines, for it to go the length of adopting compulsory arbitration. Furthermore, the experience of governments which have tried various forms of interference in such matters has indicated that attempts at compulsory arbitration are not likely to be successful and that other forms of governmental intervention are likely to be more successful and to produce more satisfactory results.

The government which has made the most thorough and interesting trial of compulsory arbitration is that of New Zealand. It passed a compulsory arbitration law in 1894, entitled, "An act to encourage the formation of industrial unions and associations and to facilitate the settlement of industrial disputes by conciliation and arbitration." The original act and the various amendments were united into a Compilation Act in 1905 and various amendments have been passed since.

The act as it stood in 1905 provided for the registration with the Secretary of Labor of industrial unions and associations of either employers or workers. Registration made the union or association a body corporate and rendered both it and its members subject to the jurisdiction of a Conciliation Board and an Arbitration Court. Any industrial union might apply at any time for the cancellation of its registration, but such cancellation did not relieve the union or any of its members from the obligation of any agreement or award in force at the time, nor from any penalty or liability. The cancellation of registration on the part of the labor union removed it from the jurisdiction of the Conciliation Board and the Arbitration Court. But employers could not thus escape. They had to accept arbitration if their employees were registered and demanded it. Under this law, therefore, arbitration was in a sense voluntary for the workers but compulsory for the employers.

The colony was divided into eight districts in each of which there was a board of conciliation consisting of three or five mem-

bers, one or two being elected by the unions of employers, and an equal number by the unions of workers and the third or fifth member by the others members, a president and two assessors, all appointed by the governor on the recommendation of the unions of employers and of workers. An award affected not only labor unions but also all individual workers working for an employer on whom the award is binding. Unions of employers or of workers and individual employers are liable to fines not exceeding \$2,500, and individual workers to fines not exceeding \$50, for breaches of awards.

In practice the Conciliation Boards were practically ignored from the first, and almost every case went before the Arbitration Court. In the absence of this legislation, which, it will be noted, applied to all classes of commercial and industrial undertakings, including agriculture, workmen would have looked to their employers for improvements in their conditions of work and raises in their wages. But because the law existed almost every question regarding conditions of work and wages had to be settled by the Arbitration Court. The awards and agreements which have been made under it cover a great variety of subjects, including minimum wages, hours of labor, permits to incompetent workers, limitation of apprentices, periods of apprenticeship, piecework, distribution of work, holidays, meal hours, provision of tools, modes of payment, notice of dismissal scope and duration of awards, interpretation of awards, extension of awards, breaches of awards, and fines.

In the earlier years of the operation of the act conditions in New Zealand were prosperous and the awards usually resulted in advances in wages. During this period compulsory arbitration was in high favor with labor. But when the earlier awards began to expire conditions were not so prosperous, and when the workers appealed to the Court for further increases in wages these were often refused. Labor then speedily began to show dissatisfaction with the law and the Court. This dissatisfaction finally manifested itself in an acute form. In November, 1906, disregarding the provisions of the law, the employes of the street railways of Auckland declared a strike. The men's grievance was that a conductor had been discharged for alleged misconduct. Both the company and the striking employes were fined for having violated the arbitration law. In February, 1907, there was another strike; this time in

the meat packing houses at Wellington. In this case 266 strikers were fined \$25 each.

The next year there was a strike among the coal miners of the West Coast, which lasted for eleven weeks. The men claimed that seven miners who had been dismissed had been discharged because they were active unionists and socialists. The company offered to take them back, but the miners refused to work unless some arrangement were made to prevent similar occurrences in future, and offered the remarkable suggestion that when men were to be dismissed they should be selected by ballot. The union was cited before the Arbitration Court and fined \$375. Being unable to collect the fine from the union, the Court proceeded against the men individually and collected about \$250.

These strikes were followed by others, and in September, 1908, the Minister of Labor reported that since 1906 there had been 23 strikes, that the total number of strikers had been 1,117, the number of men rendered idle 2,389, the duration of the strikes 317 days, the loss of wages to workmen almost \$90,000, and the loss to employers about \$80,000. The next year there was a coal mine strike for a very curious reason. A new workmen's compensation act was to go into effect. The coal mine operators wished to insure themselves against loss in the insurance department run by the colonial government itself. The government insisted that before it would write the insurance the employes of the mines must submit to physical examination; and the men struck rather than submit to physical examination. The government then yielded and authorized its insurance department to issue policies without examination. Soon afterward there was a strike of the miners in the government coal mines at Point Elizabeth.

The chief purpose of the arbitration law was to prevent lockouts and strikes. It had succeeded in preventing lockouts but had failed to prevent strikes. Therefore, it was amended on January 1, 1909, to provide that every worker who was a party to an unlawful strike should be fined not exceeding \$50 and every employer who was a party to an unlawful lockout should be fined not exceeding \$2,500. The Boards of Conciliation were abolished and Councils of Conciliation substituted. Three permanent commissioners of conciliation are appointed by the government. In case of a dispute one of them goes to the scene and tries to effect a settlement. If he fails he sets up a Council of Conciliation consisting of

one, two or three assessors representing the employers and an equal number representing the workers. Every dispute must be referred to such a council before it can be carried to the Arbitration Court. There is, however, a way by which the workers may altogether evade the purpose of the act and strike without danger of punishment. After an award applying to them has expired they may cancel their registration, after which they cease to be subject to the law.

I have no detailed information on the subject, but I understand that the law as amended in 1909 has worked as badly as the original act and that strikes have continued to occur in New Zealand. In other words, compulsory arbitration there has failed to prevent strikes, and the government has not even been successful in all cases in enforcing the awards made by the Arbitration Court. In this respect, as in the ownership and operation of mines and railways, and in most other respects, paternalistic government in New Zealand has been very much less of a success than the advocates of similar government in this country would have us believe.

The British colonies have tried within the last two decades many experiments with social and labor legislation. That in New Zealand with compulsory arbitration is one of them. Another of the most interesting and instructive of them has been that made by our neighbor, Canada, by the passage and administration of the "Industrial Disputes Investigation Act," more familiarly known, after its author, as the "Lemieux Act." This measure is of especial interest to those engaged in the mining of coal because its enactment grew out of a coal mine strike in Lethbridge in the southern part of Province of Alberta. This strike began in the summer of 1906 and continued until late in the fall, and the people of Western Canada suddenly awakened to the fact that on the verge of a northern winter they were confronted with the danger of a serious fuel famine. The strike was finally settled. But the impression made on the public mind was so deep that legislation to prevent the recurrence of such conditions was passed and went into effect before the end of March, 1907.

The Lemieux Act applies to railroads, street railways and other public utilities and to mines of every class, metalliferous as well as coal. It provides that before a lockout or strike can legally take place in any of these industries the parties must refer their differences to a board for hearing. The party about to lockout or strike

must give notice to the government of its intention, together with a statement of the nature of the controversy. The Minister of Labor then calls on each party to name a member of the board. The two members chosen by them are given an opportunity to agree on a chairman. If they fail to do so within a specified time the Minister of Labor appoints the chairman; and if either party fails to name a member of the board to represent it the Minister of Labor appoints him also.

The Board as thus constituted has almost the powers of a court. It may subpoena witnesses, compel the production of documents, and take testimony; but its duty is primarily that of a conciliation and mediation board. If the board can bring about a settlement by conciliation it prepares its report and sends it to the government. If it cannot do this it takes testimony and prepares a report summarizing it, and also sets forth its conclusions as to the merits of the controversy and its recommendations to the parties and gives this report to the public.

There the intervention of the government ends. The law does not require acceptance of the award. According to all reports this very simple measure has worked well. Hon. W. L. MacKenzie King, formerly Minister of Labor of Canada, delivered an address before the Railway Business Association in New York on December 19, 1912, in which he said that during the five and one-half years up to September, 1912, there had been 132 applications made for the formation of conciliation boards, and that strikes were averted in all but 15 cases. Of these controversies, 40 were in coal mines, 10 in metalliferous mines, 53 on railways and 10 on street railways.

The only similar federal law which we have in this country is the Erdman Act, as amended by the Newlands Act. This measure applies only to disputes between railway companies and railway employees directly concerned with the operation of trains. It creates a permanent mediation and conciliation board of three members. In case of a dispute which may lead to a lockout or strike either of the parties may appeal to this board, which will then tender its good offices. But its advances may be legally repulsed, for, unlike the Canadian law, the act does not prohibit a lockout or strike in advance of conciliation or arbitration. If the good offices of the federal mediators are accepted they proceed to the scene of the controversy and try to bring about an agreement. If they are un-

successful in this the law provides that the parties may resort to arbitration by a board composed of two representatives of the railways, two representatives of the employes and two other persons chosen by them. If the representatives of the railways and employes do not agree on the impartial arbitration they may be selected by the board of mediation and conciliation. Once the controversy has been submitted to arbitration the award must be accepted by the parties and put into effect for one year.

On the whole, the results of the operation of this act have been good. Mediation and arbitration under it have averted many serious strikes. But the law has grave defects. Why should it apply only to employes of railways directly concerned in the operation of trains? A strike in railway shops might in a very short time cause a serious interruption of traffic. And why should the law apply only to railways and their employes? A coal mine strike may cause as much loss and suffering to the public as a railway strike. Finally, why should lockouts or strikes be permitted on railways and public utilities and in coal mines before the questions in controversy have been submitted to somebody representing the public? The public has even more at stake than either of the immediate parties. May not the public, therefore, properly demand that at least all the facts shall be given to it before its rights are disregarded and its interests sacrificed?

Another criticism which has been forcibly urged against the Erdman-Newlands law is that while conciliation and arbitration under it may prevent lockouts and strikes, they do not necessarily result in fair settlements. Of the six members of the arbitration board as now constituted, only two are in any sense impartial. The other four are avowed partisans. And the only two who are impartial are never experts, for they are always chosen from some business or profession entirely different from that in which the dispute has arisen. In these circumstances the award is necessarily made by the two impartial arbitrators and, as they lack expert knowledge, and as the time allowed for the proceedings is short, the usual result is a mere splitting of the difference, which settles no principles and always results in some increases in railway wages, whether fair or not.

The most thorough investigation of the railway labor situation in this country ever made was that of the arbitration board which settled the controversy between the eastern railways and their loco-

motive engineers some two years ago. This board was not organized under the Erdman Act, but was composed of one representative of labor, one representative of the railways and five impartial arbitrators, all of whom were very prominent business and professional men. So impressed was this board by the shortcomings of the Erdman Act and the dangers of serious railway strikes, that it recommended legislation forbidding such strikes prior to arbitration and providing for federal and state wage commissions to deal with labor controversies on railways.

The most serious shortcomings of the Erdman-Newlands law is that it does not prohibit strikes and lockouts before arbitration; and the best feature of the Lemieux Act of Canada is that it does prohibit them before the facts regarding the questions involved have been given a thorough airing.

With your permission I shall suggest, with some difference, a plan for legislation which I believe would be better than either the Erdman-Newlands Act or the Lemieux Act. The Erdman-Newlands Act should be so amended as to make it apply to both controversies between railways and any or all of their employes, and between coal mining companies and their employes. Whether its extension to disputes in coal mines would be constitutional is a question which I expressly refrain from discussing at this point. The present federal mediation and conciliation board should be retained with its present functions, but its jurisdiction should be extended in the same measure as the provisions of the law under which it acts. Strikes and lockouts in advance of arbitration should be prohibited in the industries mentioned. In case of arbitration the arbitration board should be composed of one representative of the employers, one representative of the employes, one member of the Interstate Commerce Commission, one member of the new Interstate Trade Commission, and a fifth member to be chosen by these four. The testimony taken by the board, together with its conclusions and recommendations, should be made public, but, as in Canada, the award should not be legally binding on the parties.

What would be the advantage of such legislation? It would provide machinery for governmental intervention by which agreements between parties themselves might be brought about. It would prevent lockouts and strikes until after the facts regarding all the points in controversy had been laid before the public. It would secure arbitration by a board, a majority of whose members would

represent the public, and which at the same time would be so constituted that we may fairly assume that it would act with expert knowledge. And after the parties had had time to think deliberately about the points in controversy, and after a board as thus constituted had ascertained the facts and presented them to the parties and made them public, together with its recommendations, it is almost inconceivable that any concern or body of workingmen would have the hardihood to reject the board's findings and recommendations and resort to a lockout or strike.

That such federal legislation would be constitutional as applied to railways there cannot be any serious doubt. Whether it would be constitutional as applied to coal mines is a different question. But if such federal legislation as to disputes in coal mines would not be constitutional, unquestionably similar state legislation would be so. Furthermore, similar state legislation applying to public utilities of all kinds would be constitutional.

Would not such regulation of the relations between capital and labor secure all of the advantages of compulsory arbitration and at the same time steer clear of its disadvantages? New Zealand has tried both compulsory arbitration and compulsory acceptance of awards. Canada has tried compulsory arbitration with voluntary acceptance of awards. Under the Erdman-Newlands Act we have tried voluntary arbitration with compulsory acceptance of awards. In my opinion which would be best suited to our own conditions and needs would be that or compulsory arbitration with voluntary acceptance of awards, carried out under some such plan as that which I have outlined.

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